

## **Appendix D**

### **Data Management Plan for Field and Nonchemical Data from the Operable Unit 3-13, Group 4 and Group 5 Well Installation and Monitoring Projects**

**DOE/ID-10768**

**Revision 0**

[The document that is the subject of this appendix was provided as an attachment to the original deliverable.]



## **COST ESTIMATE SUPPORT DATA RECAPITULATION**

Project Title: WAG 3 Group 5 SRPA Wells  
Estimator: J. C. Grenz  
Date: October 23, 2000  
Estimate Type: Planning  
File: 2975-A  
Approved By:

I. **SCOPE OF WORK:** *Brief description of the proposed project.*

The scope of this project is to deepen four existing wells, Drill one new well, and to monitor existing INTEC wells.

- A. Deepen four existing USGS wells by core drilling approximately 125 feet deeper.
- B. Test the deepened wells and then backfill them back to their current depth..
- C. Drill one new deep well.
- D. Monitor 47 wells once and 20 wells once each year.
- ~~E. Construct a temporary evaporation tank and haul the water to it.~~

II. **BASIS OF THE ESTIMATE:** *Drawings, Design Report, Engineers Notes and/or other documentation upon which the estimate is originated.*

Brief scope of work from geologists.

III. **ASSUMPTIONS:** *Conditions statements accepted or supposed true without proof of demonstration. An assumption has a direct impact on total estimated cost.*

- A. Work to be performed in 2001 and beyond.
- B. Work will be performed by a contractor familiar with drilling at the INEEL.

IV. **CONTINGENCY GUIDELINE IMPLEMENTATION:** *The percentage used for contingency as determined by the contingency allowance guidelines can be altered to reflect the type of construction and conditions that may impact the total estimated cost.*

A 25% contingency, which includes costs for management reserve, has been included in the estimate. This is within the acceptable range for an estimate at this stage of development. Lack of written scope was the primary driver to arrive at this amount of contingency.

**COST ESTIMATE SUPPORT DATA RECAPITULATION**

- Continued -

Project Title: WAG 3 Group 5 SRPA Wells

File: 2975-A

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**V. OTHER COMMENTS/CONCERNS SPECIFIC TO THE ESTIMATE**

- A. Costs on the detailed cost sheets are direct costs and do not include overhead, profit or escalation for the drilling sub-contractor.
- B. Due to the minimal detail and scope definition, this estimate is considered a “Planning” estimate and is not intended to be used to establish a cost baseline.

Project Name:  
**WAG 3 Group 5 Wells**  
 Project Location: **INTEC**  
 Estimate Number: **2975-A**

## Project Summary Report

Client: **C. J. Roberts**  
 Prepared By: **J. C. Grenz**  
 Estimate Type: **Planning**

LEVEL	REMEDIAL ACTION	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
		<b>\$860,517</b>	<b>\$863</b>	<b>\$215,345</b>	<b>25.00%</b>	<b>\$1,076,725</b>
50280	--Yr 2 Sampling (47 wells)	\$88,673	\$0	\$22,168	25.00%	\$110,842
50280.01	----Monitor 47 Wells (50280)	\$10,899	\$0	\$2,725	25.00%	\$13,624
50280.02	----Analysis & Validation (50290/51101)	\$77,774	\$0	\$19,444	25.00%	\$97,218
50350	--Yr 2 Sampling (20 wells)	\$53,457	\$0	\$13,364	25.00%	\$66,821
50250.01	----Monitor 20 Wells (50350)	\$4,638	\$0	\$1,160	25.00%	\$5,798
50350.02	----Analysis & Validation (50360/50370)	\$48,819	\$0	\$12,205	25.00%	\$61,024
51095	--Yr 2 Micropurge (20 wells)	\$145,069	\$0	\$36,267	25.00%	\$181,336
51095.01	----Micropurge	\$91,612	\$0	\$22,903	25.00%	\$114,515
51095.02	----Micropurge Sampling 20 Wells (51095)	\$4,638	\$0	\$1,160	25.00%	\$5,798
51095.03	----Micropurge Sample Analysis & Valadation (51096/51100)	\$48,819	\$0	\$12,205	25.00%	\$61,024
50430	--Yr 3 Sampling (20 wells)	\$53,457	\$0	\$13,364	25.00%	\$66,821
50430.01	----Monitor 20 Wells (40430)	\$4,638	\$0	\$1,160	25.00%	\$5,798
50430	----Analysis & Validation (50440/50450)	\$48,819	\$0	\$12,205	25.00%	\$61,024
50500	--Yr 4 Sampling (20 wells)	\$53,457	\$0	\$13,364	25.00%	\$66,821
50500.01	----Monitor 20 Wells (50500)	\$4,638	\$0	\$1,160	25.00%	\$5,798
50500.01	----Analysis & Validation (50510/50520)	\$48,819	\$0	\$12,205	25.00%	\$61,024
50560	--Yr 5 Sampling (20 wells)	\$53,457	\$0	\$13,364	25.00%	\$66,821
50560.01	----Monitor 20 Wells (50560)	\$4,638	\$0	\$1,160	25.00%	\$5,798
50560.02	----Analysis & Validation (50570/50580)	\$48,819	\$0	\$12,205	25.00%	\$61,024
50620	--Yr 6 Sampling (20 wells)	\$53,457	\$0	\$13,364	25.00%	\$66,821
INEEL						

Project Name:  
**WAG 3 Group 5 Wells**  
 Project Location: **INTEC**  
 Estimate Number: **2975-A**

## Project Summary Report

Client: **C. J. Roberts**  
 Prepared By: **J. C. Grenz**  
 Estimate Type: **Planning**

LEVEL	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
50620.01	\$4,638	\$0	\$1,160	25.00%	\$5,798
50620.02	\$48,819	\$0	\$12,205	25.00%	\$61,024
50730	\$359,490	\$863	\$90,088	25.00%	\$450,441
50730.01	\$8,324	\$0	\$2,081	25.00%	\$10,405
50730.02	\$27,753	\$0	\$6,938	25.00%	\$34,692
50730.03	\$26,334	\$0	\$6,584	25.00%	\$32,918
50730.04	\$113,415	\$0	\$28,354	25.00%	\$141,768
50750.06	\$3,890	\$0	\$973	25.00%	\$4,863
50750.10	\$5,258	\$0	\$1,315	25.00%	\$6,573
50730.20	\$499	\$0	\$125	25.00%	\$624
50730.21	\$85,623	\$0	\$21,406	25.00%	\$107,029
50730.22	\$13,369	\$0	\$3,342	25.00%	\$16,711
50750.11	\$75,024	\$863	\$18,972	25.00%	\$94,858
ER 1221.04.01	\$23,805	\$274	\$6,020	25.00%	\$30,098
ER 1221.04.01.1	\$10,410	\$120	\$2,633	25.00%	\$13,163
ER 1221.04.01.2	\$13,394	\$154	\$3,387	25.00%	\$16,935
ER 1221.04.08	\$48,960	\$563	\$12,381	25.00%	\$61,903
ER 1221.04.08.1	\$23,071	\$265	\$5,834	25.00%	\$29,171
ER 1221.04.08.2	\$25,888	\$298	\$6,547	25.00%	\$32,733
ER 1221.04.09	\$2,260	\$26	\$571	25.00%	\$2,857
<b>GAPIF Non-Org G&amp;A and PIF</b>	<b>\$15,013</b>	<b>\$0</b>	<b>\$3,753</b>	<b>25.00%</b>	<b>\$18,766</b>
<b>INEEL</b>					

Project Name:  
**WAG 3 Group 5 Wells**  
Project Location: **INTEC**  
Estimate Number: **2975-A**

**Project Summary Report**

Client: **C. J. Roberts**  
Prepared By: **J. C. Grenz**  
Estimate Type: **Planning**

<u>LEVEL</u>	<u>Estimate Subtotal</u>	<u>Escalation</u>	<u>Contingency</u>	<u>Contingency %</u>	<u>TOTAL</u>
<hr/>					
<hr/>					
<b>Total WAG 3 Group 5 Wells</b>	<b>\$875,530</b>	<b>\$863</b>	<b>\$219,098</b>	<b>25.00%</b>	<b>\$1,095,491</b>

**INEEL**

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**Success Estimating and Cost Management System**

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Project Name:

WAG 3 Group 5 Wells

Project Location: INTEC

Estimate Number: 2975-A

# CONSTRUCTION DETAIL ITEM REPORT

Client: C. J. Roberts

Prepared By: J. C. Grenz

Estimate Type: Planning

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const Eqp	Matl	S/C	Other	TOTAL
<u>--- 50280.01 Monitor 47 Wells (50280)</u>										
Take Samples		U.C. per ea	47.00	10 T15 470	211.9 \$9,959	0 \$0	20 \$940	0 \$0	0 \$0	231.9 \$10,899
Subtotal					\$9,959	\$0	\$940	\$0	\$0	\$10,899
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$9,959	\$0	\$940	\$0	\$0	\$10,899
Escalation					\$0	\$0	\$0	\$0	\$0	\$0
Contingency					\$2,490	\$0	\$235	\$0	\$0	\$2,725
--- Total 50280.01 Monitor 47 Wells (50280)					\$12,449	\$0	\$1,175	\$0	\$0	\$13,624
<u>--- 50280.02 Analysis &amp; Validation (50290/51101)</u>										
Sample/Valadate		U.C. per ls	1.00	0.2	0	0	0	77774	0	77774
Memo: Water Samples: Gross Beta, Tritium, Uranium, Neptunium, Plutonium, Americium, Iodine, Strontium, Gross Alpha/Beta, Anions, Metals, Rad Valadation, and I&MCA Validation					\$0	\$0	\$0	\$77,774	\$0	\$77,774
Subtotal					\$0	\$0	\$0	\$77,774	\$0	\$77,774
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$0	\$0	\$0	\$77,774	\$0	\$77,774
Escalation					\$0	\$0	\$0	\$0	\$0	\$0
Contingency					\$0	\$0	\$0	\$19,444	\$0	\$19,444
--- Total 50280.02 Analysis & Validation (50290/51101)					\$0	\$0	\$0	\$97,218	\$0	\$97,218
<u>--- 50250.01 Monitor 20 Wells (50350)</u>										
Take Samples		U.C. per ea	20.00	10 T15 200	211.9 \$4,238	0 \$0	20 \$400	0 \$0	0 \$0	231.9 \$4,638
Subtotal					\$4,238	\$0	\$400	\$0	\$0	\$4,638
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$4,238	\$0	\$400	\$0	\$0	\$4,638
Escalation					\$0	\$0	\$0	\$0	\$0	\$0
Contingency					\$1,060	\$0	\$100	\$0	\$0	\$1,160
--- Total 50250.01 Monitor 20 Wells (50350)					\$5,298	\$0	\$500	\$0	\$0	\$5,798
<u>--- 50350.02 Analysis &amp; Validation (50360/50370)</u>										
Sample/Valadate		U.C. per ls	1.00	0.2	0	0	0	48819	0	48819
Memo: Water Samples: Gross Beta, Tritium, Uranium, Neptunium, Plutonium, Americium, Iodine, Strontium, Gross Alpha/Beta, Anions, Metals, Rad Valadation, and I&MCA Validation					\$0	\$0	\$0	\$48,819	\$0	\$48,819



# CONSTRUCTION DETAIL ITEM REPORT

Project Name:  
WAG 3 Group 5 Wells  
Project Location: INTEC  
Estimate Number: 2975-A

Client: C. J. Roberts  
Prepared By: J. C. Grenz  
Estimate Type: Planning

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const Eqp	Matl	S/C	Other	TOTAL
<b>--- 50350.02 Analysis &amp; Validation (50360/50370)</b>										
	Subtotal				\$0	\$0	\$0	\$48,819	\$0	\$48,819
	Sales Tax				\$0	\$0	\$0	\$0	\$0	\$0
	INEEL ORG Labor/Subcontractor Overheads				\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate				\$0	\$0	\$0	\$0	\$0	\$48,819
	Escalation				\$0	\$0	\$0	\$12,205	\$0	\$12,205
	Contingency				\$0	\$0	\$0	\$0	\$0	\$0
<b>--- Total 50350.02 Analysis &amp; Validation (50360/50370)</b>										
			0		\$0	\$0	\$0	\$61,024	\$0	\$61,024
<b>--- 51095.01 Micropurge</b>										
	<i>Memo: 10 hours per well for boom truck and 3 men.</i>									
	DRILL									
	U.C. per hr		200.00							
	DRILL				0	62.5	0	0	0	62.5
	Boom Truck				\$0	\$12,500	\$0	\$0	\$0	\$12,500
	<i>Memo: Pull 20 pumps, install MP pumps, pull MP pumps, and reinstall regular pumps</i>									
	DRILL									
	U.C. per hr		600.00		30.09	0	0	0	0	30.09
	600				\$18,054	\$0	\$0	\$0	\$0	\$18,054
	Purchase Pumps & Contris				0	0	3670	0	0	3670
	10.00				\$0	\$0	\$36,700	\$0	\$0	\$36,700
<b>--- Total 51095.01 Micropurge</b>										
			600		\$30,741	\$21,284	\$62,490	\$0	\$0	\$114,515
<b>--- 51095.02 Micropurge Sampling 20 Wells (51095)</b>										
	Take Samples									
	U.C. per ea		20.00		211.9	0	20	0	0	231.9
	200				\$4,238	\$0	\$400	\$0	\$0	\$4,638
	Subtotal				\$4,238	\$0	\$400	\$0	\$0	\$4,638
	Sales Tax				\$0	\$0	\$0	\$0	\$0	\$0
	INEEL ORG Labor/Subcontractor Overheads				\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate				\$0	\$0	\$0	\$0	\$0	\$4,638
	Escalation				\$1,060	\$0	\$100	\$0	\$0	\$1,160
	Contingency				\$0	\$0	\$0	\$0	\$0	\$0
<b>--- Total 51095.02 Micropurge Sampling 20 Wells (51095)</b>										
			200		\$5,298	\$0	\$500	\$0	\$0	\$5,798

# CONSTRUCTION DETAIL ITEM REPORT

Project Name:  
WAG 3 Group 5 Wells  
Project Location: INTEC  
Estimate Number: 2975-A

Client: C. J. Roberts  
Prepared By: J. C. Grenz  
Estimate Type: Planning

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const/Eqp	Matl	S/C	Other	TOTAL
<u>--- 51095.03 Micropurge Sample Analysis &amp; Valadation (51096/51100)</u>										
		U.C. per ls								
Sample/Valadate		1.00	0.2		\$0	\$0	\$0	48819	0	48819
Memo:	Water Samples: Gross Beta, Tritium, Uranium, Neptunium, Plutonium, Americium, Iodine, Strontium, Gross Alpha/Beta, Anions, Metals, Rad Valadation, and I&MCA Validation									
Subtotal					\$0	\$0	\$0	\$48,819	\$0	\$48,819
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0	\$0	\$0	\$0	\$0	\$0
<b>Subtotal Estimate</b>										
Escalation					\$0	\$0	\$0	\$0	\$0	\$0
Contingency					\$0	\$0	\$0	\$12,205	\$0	\$12,205
<b>--- Total 51095.03 Micropurge Sample Analysis &amp; Valadation (51096/51100)</b>										
			0		\$0	\$0	\$0	\$61,024	\$0	\$61,024
<u>--- 50430.01 Monitor 20 Wells (40430)</u>										
		U.C. per ea								
Take Samples		20.00	10	T15	211.9	0	20	0	0	231.9
			200	\$21.19	\$4,238	\$0	\$400	\$0	\$0	\$4,638
Subtotal					\$4,238	\$0	\$400	\$0	\$0	\$4,638
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0	\$0	\$0	\$0	\$0	\$0
<b>Subtotal Estimate</b>										
Escalation					\$0	\$0	\$0	\$0	\$0	\$0
Contingency					\$1,060	\$0	\$100	\$0	\$0	\$1,160
<b>--- Total 50430.01 Monitor 20 Wells (40430)</b>										
			200		\$5,298	\$0	\$500	\$0	\$0	\$5,798
<u>--- 50430 Analysis &amp; Validation (50440/50450)</u>										
		U.C. per ls								
Sample/Valadate		1.00	0.2		0	0	0	48819	0	48819
Memo:	Water Samples: Gross Beta, Tritium, Uranium, Neptunium, Plutonium, Americium, Iodine, Strontium, Gross Alpha/Beta, Anions, Metals, Rad Valadation, and I&MCA Validation									
Subtotal					\$0	\$0	\$0	\$48,819	\$0	\$48,819
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0	\$0	\$0	\$0	\$0	\$0
<b>Subtotal Estimate</b>										
Escalation					\$0	\$0	\$0	\$0	\$0	\$0
Contingency					\$0	\$0	\$0	\$12,205	\$0	\$12,205
<b>--- Total 50430 Analysis &amp; Validation (50440/50450)</b>										
			0		\$0	\$0	\$0	\$61,024	\$0	\$61,024
<u>--- 50500.01 Monitor 20 Wells (50500)</u>										
		U.C. per ea								
Take Samples		20.00	10	T15	211.9	0	20	0	0	231.9
			200	\$21.19	\$4,238	\$0	\$400	\$0	\$0	\$4,638

# CONSTRUCTION DETAIL ITEM REPORT

Client: **C. J. Roberts**  
 Prepared By: **J. C. Grenz**  
 Estimate Type: **Planning**

Project Name: **WAG 3 Group 5 Wells**  
 Project Location: **INTEC**  
 Estimate Number: **2975-A**

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const	Eqp	Matl	S/C	Other	TOTAL
--- 50500.01 Monitor 20 Wells (50500)											
Subtotal					\$4,238		\$0	\$400	\$0	\$0	\$4,638
Sales Tax					\$0		\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0		\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$0		\$0	\$0	\$0	\$0	\$4,638
Escalation					\$1,060		\$0	\$100	\$0	\$0	\$1,160
Contingency							\$0				
--- Total 50500.01 Monitor 20 Wells (50500)											
			200		\$5,298		\$0	\$500	\$0	\$0	\$5,798
--- 50500.01 Analysis & Validation (50510/50520)											
		U.C. per ls	0.2		0		0	0	48819	0	48819
			0		\$0		\$0	\$0	\$48,819	\$0	\$48,819
Sample/Validate		1.00									
Memo: Water Samples: Gross Beta, Tritium, Uranium, Neptunium, Plutonium, Americium, Iodine, Strontium, Gross Alpha/Beta, Anions, Metals, Rad Valadation, and I&MCA Validation											
Subtotal					\$0		\$0	\$0	\$48,819	\$0	\$48,819
Sales Tax					\$0		\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0		\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$0		\$0	\$0	\$0	\$0	\$48,819
Escalation					\$0		\$0	\$0	\$12,205	\$0	\$12,205
Contingency							\$0				
--- Total 50500.01 Analysis & Validation (50510/50520)											
			0		\$0		\$0	\$0	\$61,024	\$0	\$61,024
--- 50560.01 Monitor 20 Wells (505560)											
		U.C. per ea	10	T15	211.9		0	20	0	0	231.9
		20.00	200	\$21.19	\$4,238		\$0	\$400	\$0	\$0	\$4,638
Take Samples											
Subtotal					\$4,238		\$0	\$400	\$0	\$0	\$4,638
Sales Tax					\$0		\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0		\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$0		\$0	\$0	\$0	\$0	\$4,638
Escalation					\$1,060		\$0	\$100	\$0	\$0	\$1,160
Contingency							\$0				
--- Total 50560.01 Monitor 20 Wells (505560)											
			200		\$5,298		\$0	\$500	\$0	\$0	\$5,798
--- 50560.02 Analysis & Validation (50570/50580)											
		U.C. per ls	0.2		0		0	0	48819	0	48819
			0		\$0		\$0	\$0	\$48,819	\$0	\$48,819
Sample/Validate		1.00									
Memo: Water Samples: Gross Beta, Tritium, Uranium, Neptunium, Plutonium, Americium, Iodine, Strontium, Gross Alpha/Beta, Anions, Metals, Rad Valadation, and I&MCA Validation											

# CONSTRUCTION DETAIL ITEM REPORT

Project Name:  
WAG 3 Group 5 Wells  
Project Location: INTEC  
Estimate Number: 2975-A

Client: C. J. Roberts  
Prepared By: J. C. Grenz  
Estimate Type: Planning

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const	Eqp	Matl	S/C	Other	TOTAL
--- 50560.02 Analysis & Validation (50570/50580)											
Subtotal					\$0		\$0	\$0	\$48,819	\$0	\$48,819
Sales Tax					\$0		\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0		\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$0		\$0	\$0	\$0	\$0	\$48,819
Escalation					\$0		\$0	\$0	\$12,205	\$0	\$12,205
Contingency					\$0		\$0	\$0	\$0	\$0	\$0
--- Total 50560.02 Analysis & Validation (50570/50580)											
		0			\$0		\$0	\$0	\$61,024	\$0	\$61,024
--- 50620.01 Monitor 20 Wells (50620)											
Take Samples		U.C. per ea	10	T15	211.9		0	20	0	0	231.9
			200	\$21.19	\$4,238		\$0	\$400	\$0	\$0	\$4,638
Subtotal					\$4,238		\$0	\$400	\$0	\$0	\$4,638
Sales Tax					\$0		\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0		\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$0		\$0	\$0	\$0	\$0	\$4,638
Escalation					\$1,060		\$0	\$100	\$0	\$0	\$1,160
Contingency					\$0		\$0	\$0	\$0	\$0	\$0
--- Total 50620.01 Monitor 20 Wells (50620)											
			200		\$5,298		\$0	\$500	\$0	\$0	\$5,798
--- 50620.02 Analysis & Validation (50630/5640)											
Sample/Valadate		U.C. per is	0.2		0		0	0	48819	0	48819
Memo: Water Samples: Gross Beta, Tritium, Uranium, Neptunium, Plutonium, Americium, Iodine, Strontium, Gross Alpha/Beta, Anions, Metals, Rad Valadation, and I&MCA Validation			0		\$0		\$0	\$0	\$48,819	\$0	\$48,819
Subtotal					\$0		\$0	\$0	\$48,819	\$0	\$48,819
Sales Tax					\$0		\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0		\$0	\$0	\$0	\$0	\$0
Subtotal Estimate					\$0		\$0	\$0	\$0	\$0	\$48,819
Escalation					\$0		\$0	\$0	\$12,205	\$0	\$12,205
Contingency					\$0		\$0	\$0	\$0	\$0	\$0
--- Total 50620.02 Analysis & Validation (50630/5640)											
			0		\$0		\$0	\$0	\$61,024	\$0	\$61,024
--- 50730.01 Pull Pumps											
Memo: 10 hours per well for boom truck and 3 men.		U.C. per hr			0		62.5	0	0	0	62.5
Boom Truck		DRILL	40.00		\$0		\$2,500	\$0	\$0	\$0	\$2,500
Memo: Set packers for each zone and pump samples.											

# CONSTRUCTION DETAIL ITEM REPORT

Client: C. J. Roberts  
Prepared By: J. C. Grenz  
Estimate Type: Planning

Project Name: WAG 3 Group 5 Wells  
Project Location: INTEC  
Estimate Number: 2975-A

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const Eqp	Matl	S/C	Other	TOTAL
<b>--- 50730.01 Pull Pumps</b>										
Memo:	10 hours per well for boom truck and 3 men.									
	DRILL	U.C. per hr	120.00	1 CN-LABR	30.09	0	0	0	0	30.09
Boom Truck Labor					\$3,611	\$0	\$0	\$0	\$0	\$3,611
Subtotal					\$3,611	\$2,500	\$0	\$0	\$0	\$6,111
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$1,308	\$905	\$0	\$0	\$0	\$2,213
Subtotal Estimate					\$0	\$0	\$0	\$0	\$0	\$8,324
Escalation					\$1,230	\$851	\$0	\$0	\$0	\$2,081
Contingency					\$6,148	\$4,257	\$0	\$0	\$0	\$10,405
<b>--- Total 50730.01 Pull Pumps</b>										
<b>--- 50730.02 Advance 4 Wells</b>										
Memo:	This is to deepen 4 wells at 125 lf each.									
	DRILL	U.C. per hr	90.00	0	0	125	0	0	0	125
Core Drill					\$0	\$11,250	\$0	\$0	\$0	\$11,250
Memo: Deepen well by core drilling 125 feet.										
	DRILL	U.C. per hr	270.00	1 CN-LABR	30.09	0	0	0	0	30.09
Drill Labor					\$8,124	\$0	\$0	\$0	\$0	\$8,124
Consumables					0	1000	0	0	0	1000
	DRILL	U.C. per lot	1.00	0	\$0	\$1,000	\$0	\$0	\$0	\$1,000
Subtotal					\$8,124	\$12,250	\$0	\$0	\$0	\$20,374
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$2,942	\$4,437	\$0	\$0	\$0	\$7,379
Subtotal Estimate					\$0	\$0	\$0	\$0	\$0	\$27,753
Escalation					\$2,767	\$4,172	\$0	\$0	\$0	\$6,938
Contingency					\$13,833	\$20,858	\$0	\$0	\$0	\$34,692
<b>--- Total 50730.02 Advance 4 Wells</b>										
<b>--- 50730.03 Sample and Replace Pumps</b>										
Memo:	Sample 4 wells									
	DRILL	U.C. per hr	120.00	0	0	62.5	0	0	0	62.5
Boom Truck					\$0	\$7,500	\$0	\$0	\$0	\$7,500
Memo: Set packers for each zone and pump samples.										
	DRILL	U.C. per hr	360.00	1 CN-LABR	30.09	0	0	0	0	30.09
Boom Truck Labor					\$10,832	\$0	\$0	\$0	\$0	\$10,832

# CONSTRUCTION DETAIL ITEM REPORT

Client: C. J. Roberts  
 Prepared By: J. C. Grenz  
 Estimate Type: Planning

Project Name: WAG 3 Group 5 Wells  
 Project Location: INTEC  
 Estimate Number: 2975-A

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const Eqp	Matl	S/C	Other	TOTAL
<b>--- 50730.03 Sample and Replace Pumps</b>										
<i>Memo: Sample 4 wells</i>										
Bentonite	DRILL	U.C. per lb	10,000.00	0	\$0	\$0	0.1	\$0	0	\$1,000
Subtotal					\$10,832	\$7,500	\$1,000	\$0	\$0	\$19,332
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$3,923	\$2,716	\$362	\$0	\$0	\$7,002
Subtotal Estimate					\$0	\$0	\$0	\$0	\$0	\$26,334
Escalation					\$3,689	\$2,554	\$341	\$0	\$0	\$6,584
Contingency					\$18,445	\$12,770	\$1,703	\$0	\$0	\$32,918
<b>--- Total 50730.03 Sample and Replace Pumps</b>										
<b>--- 50730.04 Drill New Well</b>										
<i>Memo: New deep well</i>										
Drill Well	DRILL	U.C. per lf	570.00	0	42	72	0	0	0	114
					\$23,940	\$41,040	\$0	\$0	\$0	\$64,980
Install Casing(5,10,14,18)	DRILL	U.C. per lf	1,110.00	0	3	5	0	0	0	8
					\$3,330	\$5,550	\$0	\$0	\$0	\$8,880
<i>Memo: Casing are GFE</i>										
Grout and Gravel	DRILL	U.C. per cf	400.00	0	8.3	14.2	1	0	0	23.5
					\$3,320	\$5,680	\$400	\$0	\$0	\$9,400
Subtotal					\$30,590	\$52,270	\$400	\$0	\$0	\$83,260
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$11,079	\$18,931	\$145	\$0	\$0	\$30,155
Subtotal Estimate					\$0	\$0	\$0	\$0	\$0	\$113,415
Escalation					\$10,417	\$17,800	\$136	\$0	\$0	\$28,354
Contingency					\$52,086	\$89,001	\$681	\$0	\$0	\$141,768
<b>--- Total 50730.04 Drill New Well</b>										
<b>--- 50750.06 Haul Water</b>										
<i>Memo: DRILL</i>										
Haul Water to SSSTF (175k gal)	DRILL	U.C. per hr	60.00	1	CN-TRHV	15	0	0	0	47.6
					\$32.60	\$900	\$0	\$0	\$0	\$2,856

Project Name:  
**WAG 3 Group 5 Wells**  
 Project Location: **INTEC**  
 Estimate Number: **2975-A**

## CONSTRUCTION DETAIL ITEM REPORT

Client: **C. J. Roberts**  
 Prepared By: **J. C. Grenz**  
 Estimate Type: **Planning**

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const	Eqp	Matl	S/C	Other	TOTAL
<b>--- 50750.06 Haul Water</b>											
Subtotal					\$1,956		\$900	\$0	\$0	\$0	\$2,856
Sales Tax					\$0		\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$708		\$326	\$0	\$0	\$0	\$1,034
<b>Subtotal Estimate</b>											<b>\$3,890</b>
Escalation					\$0		\$0	\$0	\$0	\$0	\$0
Contingency					\$666		\$306	\$0	\$0	\$0	\$973
<b>--- Total 50750.06 Haul Water</b>			<b>60</b>		<b>\$3,331</b>		<b>\$1,532</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,863</b>
<b>--- 50750.10 Quality Assurance</b>											
00201000	7260										
Inspection and Overview			10	T12	250.1		0	0	0	0	250.1
			6.00		\$1,501		\$0	\$0	\$0	\$0	\$1,501
00203000	7260										
Vendor Data Review and Field Problems			2	T12	50.02		0	0	0	0	50.02
			6.00		\$300		\$0	\$0	\$0	\$0	\$300
00205000	7260										
Inspection Plan Preparation			20	T12	500.2		0	0	0	0	500.2
			1.00		\$500		\$0	\$0	\$0	\$0	\$500
Quality Assurance Supervision @ 10%			0.1	Z03	5.232		0	0	0	0	5.232
			92.00		\$481		\$0	\$0	\$0	\$0	\$481
<b>Subtotal Estimate</b>											<b>\$5,258</b>
Escalation					\$0		\$0	\$0	\$0	\$0	\$0
Contingency					\$1,315		\$0	\$0	\$0	\$0	\$1,315
<b>--- Total 50750.10 Quality Assurance</b>			<b>101</b>		<b>\$6,573</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,573</b>
<b>--- 50730.20 Monitor New Well , 4 Advanced Wells, &amp; 3 Existing Wells</b>											
Take Samples			80.00	T15	4,238		0	2	0	0	6,238
					\$339		\$0	\$160	\$0	\$0	\$499
<b>Subtotal Estimate</b>											<b>\$499</b>
Escalation					\$0		\$0	\$0	\$0	\$0	\$0
Contingency					\$85		\$0	\$40	\$0	\$0	\$125
<b>--- Total 50730.20 Monitor New Well , 4 Advanced Wells, &amp; 3 Existing Wells</b>			<b>16</b>		<b>\$424</b>		<b>\$0</b>	<b>\$200</b>	<b>\$0</b>	<b>\$0</b>	<b>\$624</b>

# CONSTRUCTION DETAIL ITEM REPORT

Client: **C. J. Roberts**  
 Prepared By: **J. C. Grenz**  
 Estimate Type: **Planning**

Project Name:  
**WAG 3 Group 5 Wells**  
 Project Location: **INTEC**  
 Estimate Number: **2975-A**

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const	Eqp	Matl	S/C	Other	TOTAL
--- 50730.21 Analysis & Validation of 8 Wells											
Sample/Validate		U.C. per ls	0.2		0		0	0	85623	0	85623
Memo: Water Samples: Gross Beta, Tritium, Uranium, Neptunium, Plutonium, Americium, Iodine, Strontium, Gross Alpha/Beta, Anions, Metals, Rad Valadation, and I&MCA Validation		1.00	0		\$0		\$0	\$0	\$85,623	\$0	\$85,623
Subtotal											
Sales Tax					\$0		\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$0		\$0	\$0	\$0	\$0	\$0
Subtotal Estimate											
Escalation					\$0		\$0	\$0	\$0	\$0	\$0
Contingency					\$0		\$0	\$21,406	\$0	\$0	\$21,406
--- Total 50730.21 Analysis & Validation of 8 Wells											
			0		\$0		\$0	\$0	\$107,029	\$0	\$107,029
--- 50730.22 Bore Hole Logging of 8 Wells											
DRILL											
Boom Truck		U.C. per hr	80.00		0		62.5	0	0	0	62.5
Memo: Set packers for each zone and pump samples.					\$0		\$5,000	\$0	\$0	\$0	\$5,000
DRILL											
Boom Truck Labor		U.C. per hr	160.00	1 CN-LABR	30.09		0	0	0	0	30.09
					\$4,814		\$0	\$0	\$0	\$0	\$4,814
Subtotal											
Sales Tax					\$4,814		\$5,000	\$0	\$0	\$0	\$9,814
INEEL ORG Labor/Subcontractor Overheads					\$0		\$0	\$0	\$0	\$0	\$0
Subtotal Estimate											
Escalation					\$0		\$0	\$0	\$0	\$0	\$0
Contingency					\$1,640		\$1,703	\$0	\$0	\$0	\$3,342
--- Total 50730.22 Bore Hole Logging of 8 Wells											
			160		\$8,198		\$8,514	\$0	\$0	\$0	\$16,711
--- ER 1221.04.01.1 PM ADMINISTRATION											
6210											
Project Manager Cost		U.C. per Wk	20	E30	716		0	0	0	0	716
			120		\$4,296		\$0	\$0	\$0	\$0	\$4,296



# CONSTRUCTION DETAIL ITEM REPORT

Project Name:  
WAG 3 Group 5 Wells  
Project Location: INTEC  
Estimate Number: 2975-A

Client: C. J. Roberts  
Prepared By: J. C. Grenz  
Estimate Type: Planning

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const/Equip	Matl	S/C	Other	TOTAL
<b>ER 1221.04.01.1 PM ADMINISTRATION</b>										
6210	U.C. per Hr	120.00	0.1	Z04	4.929	0	0	0	0	4.929
Project Management - Management Support - 10% Of P.M.			12	\$49.29	\$591	\$0	\$0	\$0	\$0	\$591
Total										
Subtotal					\$4,887	\$0	\$0	\$0	\$0	\$4,887
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$5,523	\$0	\$0	\$0	\$0	\$5,523
Subtotal Estimate					\$120	\$0	\$0	\$0	\$0	\$120
Escalation					\$2,633	\$0	\$0	\$0	\$0	\$2,633
Contingency										
---Total	ER 1221.04.01.1 PM ADMINISTRATION		132		\$13,163	\$0	\$0	\$0	\$0	\$13,163
<b>ER 1221.04.01.2 PM - CONDUCT OF OPERATIONS/CONDUCT OF MAINTENANCE</b>										
6210	U.C. per Lot	1.00	40	E30	1432	0	0	0	0	1432
Assemble Planning Team			40	\$35.80	\$1,432	\$0	\$0	\$0	\$0	\$1,432
6210	U.C. per Ea	1.00	5	E30	179	0	0	0	0	179
Initiate Work Control Form (WCF)			5	\$35.80	\$179	\$0	\$0	\$0	\$0	\$179
6210	U.C. per Wk	6.00	5	E30	179	0	0	0	0	179
Update WCF (1 Hour / Day)			30	\$35.80	\$1,074	\$0	\$0	\$0	\$0	\$1,074
6210	U.C. per Lot	1.00	40	E30	1432	0	0	0	0	1432
Initiate Hazards Analysis Process			40	\$35.80	\$1,432	\$0	\$0	\$0	\$0	\$1,432
6210	U.C. per Lot	1.00	30	E30	1074	0	0	0	0	1074
Prepare Supporting Project Documents			30	\$35.80	\$1,074	\$0	\$0	\$0	\$0	\$1,074
6210	U.C. per Ea	1.00	10	E30	358	0	0	0	0	358
Post-Job Review			10	\$35.80	\$358	\$0	\$0	\$0	\$0	\$358
6210	U.C. per Hr	150.00	0.1	Z04	4,929	0	0	0	0	4,929
PM Management Support - 10% Of Total			15	\$49.29	\$739	\$0	\$0	\$0	\$0	\$739
Subtotal					\$6,288	\$0	\$0	\$0	\$0	\$6,288
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$7,106	\$0	\$0	\$0	\$0	\$7,106
Subtotal Estimate					\$154	\$0	\$0	\$0	\$0	\$154
Escalation					\$3,387	\$0	\$0	\$0	\$0	\$3,387
Contingency										
---Total	ER 1221.04.01.2 PM - CONDUCT OF OPERATIONS/CONDUCT OF MAINTENANCE		170		\$16,935	\$0	\$0	\$0	\$0	\$16,935
<b>ER 1221.04.08.1 CONSTRUCTION SUPERVISION &amp; ENGINEERING</b>										
00400100	U.C. per Wk	6.00	10	E30	358	0	0	0	0	358
Construction Coordinator or Manager			60	\$35.80	\$2,148	\$0	\$0	\$0	\$0	\$2,148

# CONSTRUCTION DETAIL ITEM REPORT

Client: C. J. Roberts  
Prepared By: J. C. Grenz  
Estimate Type: Planning

Project Name: WAG 3 Group 5 Wells  
Project Location: INTEC  
Estimate Number: 2975-A

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const Eqp	Matl	S/C	Other	TOTAL
<b>ER 1221.04.08.1 CONSTRUCTION SUPERVISION &amp; ENGINEERING</b>										
00400200	6340 U.C. per Wk	6.00	15 E30	\$35.80	537	0	0	0	0	537
Construction Engineer			90		\$3,222	\$0	\$0	\$0	\$0	\$3,222
2300	U.C. per Wk	6.00	20 P21	\$27.22	544.4	0	0	0	0	544.4
Subcontract Admin			120		\$3,266	\$0	\$0	\$0	\$0	\$3,266
00400400	6340 U.C. per Wk	6.00	2 E30	\$35.80	71.6	0	0	0	0	71.6
ES&H			12		\$430	\$0	\$0	\$0	\$0	\$430
00400500	6340 U.C. per Wk	6.00	2 E30	\$35.80	71.6	0	0	0	0	71.6
Quality			12		\$430	\$0	\$0	\$0	\$0	\$430
00401400	6340 U.C. per Hour	150.00	1 CN-CMO	\$11.36	11.36	0	0	0	0	11.36
Pool Account (Direct Hours @ \$24 Per Hour)			150		\$1,704	\$0	\$0	\$0	\$0	\$1,704
Subtotal					\$11,200	\$0	\$0	\$0	\$0	\$11,200
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$11,872	\$0	\$0	\$0	\$0	\$11,872
Subtotal Estimate					\$265	\$0	\$0	\$0	\$0	\$23,071
Escalation					\$5,834	\$0	\$0	\$0	\$0	\$265
Contingency						\$0	\$0	\$0	\$0	\$5,834
<b>ER 1221.04.08.1 CONSTRUCTION SUPERVISION &amp; ENGINEERING</b>										
444					\$29,171	\$0	\$0	\$0	\$0	\$29,171
<b>ER 1221.04.08.2 CM - CONDUCT OF OPERATIONS/CONDUCT OF MAINTENANCE</b>										
6340 U.C. per Lot	1.00	10 E30	10	\$35.80	358	0	0	0	0	358
Initiate Hazards Analysis Process			10		\$358	\$0	\$0	\$0	\$0	\$358
6340 U.C. per Lot	1.00	40 E30	40	\$35.80	1432	0	0	0	0	1432
Assemble Planning Team			40		\$1,432	\$0	\$0	\$0	\$0	\$1,432
6340 U.C. per Lot	1.00	20 E30	20	\$35.80	716	0	0	0	0	716
Develop Initial JSA & Input To Work Plans			20		\$716	\$0	\$0	\$0	\$0	\$716
6340 U.C. per Wk	6.00	8 E30	8	\$35.80	286.4	0	0	0	0	286.4
Project Continuous Surveillance (2 Hours / Day)			48		\$1,718	\$0	\$0	\$0	\$0	\$1,718
6340 U.C. per Lot	1.00	25 E30	25	\$35.80	895	0	0	0	0	895
Prepare Supporting Project Documents			25		\$895	\$0	\$0	\$0	\$0	\$895
6340 U.C. per Lot	1.00	40 E30	40	\$35.80	1432	0	0	0	0	1432
Develop Work Order			40		\$1,432	\$0	\$0	\$0	\$0	\$1,432
6340 U.C. per SME	1.00	5 E30	5	\$35.80	179	0	0	0	0	179
Approve Work Orders - Subject Matter Expert (SME) (5 Hours / SME)			5		\$179	\$0	\$0	\$0	\$0	\$179
6340 U.C. per Lot	1.00	5 E30	5	\$35.80	179	0	0	0	0	179
Approve Work Orders - CM			5		\$179	\$0	\$0	\$0	\$0	\$179

# CONSTRUCTION DETAIL ITEM REPORT

Project Name:  
WAG 3 Group 5 Wells  
Project Location: INTEC  
Estimate Number: 2975-A

Client: C. J. Roberts  
Prepared By: J. C. Grenz  
Estimate Type: Planning

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const/Eqp	Matl	S/C	Other	TOTAL
<b>--- ER 1221.04.08.2 CM - CONDUCT OF OPERATIONS/CONDUCT OF MAINTENANCE</b>										
	6340	U.C. per Wk	4	E30	143.2	0	0	0	0	143.2
Schedule Work On POD (1 Hour / Day)		6.00	24	\$35.80	\$859	\$0	\$0	\$0	\$0	\$859
Outages (20 Hours / Outage)	6340	U.C. per Ea	20	E30	716	0	0	0	0	716
		1.00	20	\$35.80	\$716	\$0	\$0	\$0	\$0	\$716
Subsurface Investigation (20 Hours / SI)	6340	U.C. per Ea	20	E30	716	0	0	0	0	716
		1.00	20	\$35.80	\$716	\$0	\$0	\$0	\$0	\$716
00401400	6340	U.C. per Hour	1	CN-CMOTHE	11.36	0	0	0	0	11.36
Pool Account (Direct Hours @ \$24 Per Hour)		260.00	260	\$11.36	\$2,954	\$0	\$0	\$0	\$0	\$2,954
Subtotal					\$12,154	\$0	\$0	\$0	\$0	\$12,154
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$13,734	\$0	\$0	\$0	\$0	\$13,734
Subtotal Estimate					\$298	\$0	\$0	\$0	\$0	\$298
Escalation					\$6,547	\$0	\$0	\$0	\$0	\$6,547
Contingency										
<b>--- Total ER 1221.04.08.2 CM - CONDUCT OF OPERATIONS/CONDUCT OF MAINTENANCE</b>										
			517		\$32,733	\$0	\$0	\$0	\$0	\$32,733
<b>--- ER 1221.04.09 RADIATION CONTROL</b>										
	7620	U.C. per Wk	10	U60	246.6	0	0	0	0	246.6
Radiological Control Technicians		4.00	40	\$24.66	\$986	\$0	\$0	\$0	\$0	\$986
Radiation Control - Management Support - 10% OF RCT	7610	U.C. per Hr	0.1	Z03	5.232	0	0	0	0	5.232
Total		40.00	4	\$52.32	\$209	\$0	\$0	\$0	\$0	\$209
Subtotal					\$1,196	\$0	\$0	\$0	\$0	\$1,196
Sales Tax					\$0	\$0	\$0	\$0	\$0	\$0
INEEL ORG Labor/Subcontractor Overheads					\$1,064	\$0	\$0	\$0	\$0	\$1,064
Subtotal Estimate					\$26	\$0	\$0	\$0	\$0	\$26
Escalation					\$571	\$0	\$0	\$0	\$0	\$571
Contingency										
<b>--- Total ER 1221.04.09 RADIATION CONTROL</b>										
			44		\$2,857	\$0	\$0	\$0	\$0	\$2,857
<b>--- GAPIF Non-Org G&amp;A and PIF</b>										
PF		U.C. per \$	0		0	0	0	0	1	1
Procurement Fee %		10,879.00	0		\$0	\$0	\$0	\$0	\$10,879	\$10,879

# CONSTRUCTION DETAIL ITEM REPORT

Project Name:  
**WAG 3 Group 5 Wells**  
 Project Location: **INTEC**  
 Estimate Number: **2975-A**

Client: **C. J. Roberts**  
 Prepared By: **J. C. Grenz**  
 Estimate Type: **Planning**

LEVEL	Org/Subcontractor	QTY	Hrs	Crew/Rate	Labor	Const Eqp	Matl	S/C	Other	TOTAL
---	GAPIF Non-Org G&A and PIF									
	G&A	U.C. per \$	4,134.00	0	0	0	0	0	1	1
	G&A Fee %				\$0	\$0	\$0	\$0	\$4,134	\$4,134
	Subtotal				\$0	\$0	\$0	\$0	\$15,013	\$15,013
	Sales Tax				\$0	\$0	\$0	\$0	\$0	\$0
	INEEL ORG Labor/Subcontractor Overheads				\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate				\$0	\$0	\$0	\$0	\$0	\$15,013
	Escalation				\$0	\$0	\$0	\$0	\$0	\$0
	Contingency				\$0	\$0	\$0	\$0	\$3,753	\$3,753
---	Total GAPIF Non-Org G&A and PIF		0		\$0	\$0	\$0	\$0	\$18,766	\$18,766
	Subtotal WAG 3 Group 5 Wells				\$152,216	\$92,920	\$41,600	\$456,311	\$15,013	\$758,060
	Sales Tax				\$0	\$0	\$0	\$0	\$0	\$0
	INEEL ORG Labor/Subcontractor Overheads				\$70,018	\$33,653	\$13,799	\$0	\$0	\$117,470
	Subtotal Estimate				\$863	\$0	\$0	\$0	\$0	\$875,530
	Escalation				\$55,774	\$31,643	\$13,850	\$114,078	\$3,753	\$863
	Contingency									\$219,098
	Total WAG 3 Group 5 Wells		4,666		\$278,871	\$158,217	\$69,249	\$570,389	\$18,766	\$1,095,491

**Appendix F**  
**Project Schedule**

Gantt Chart

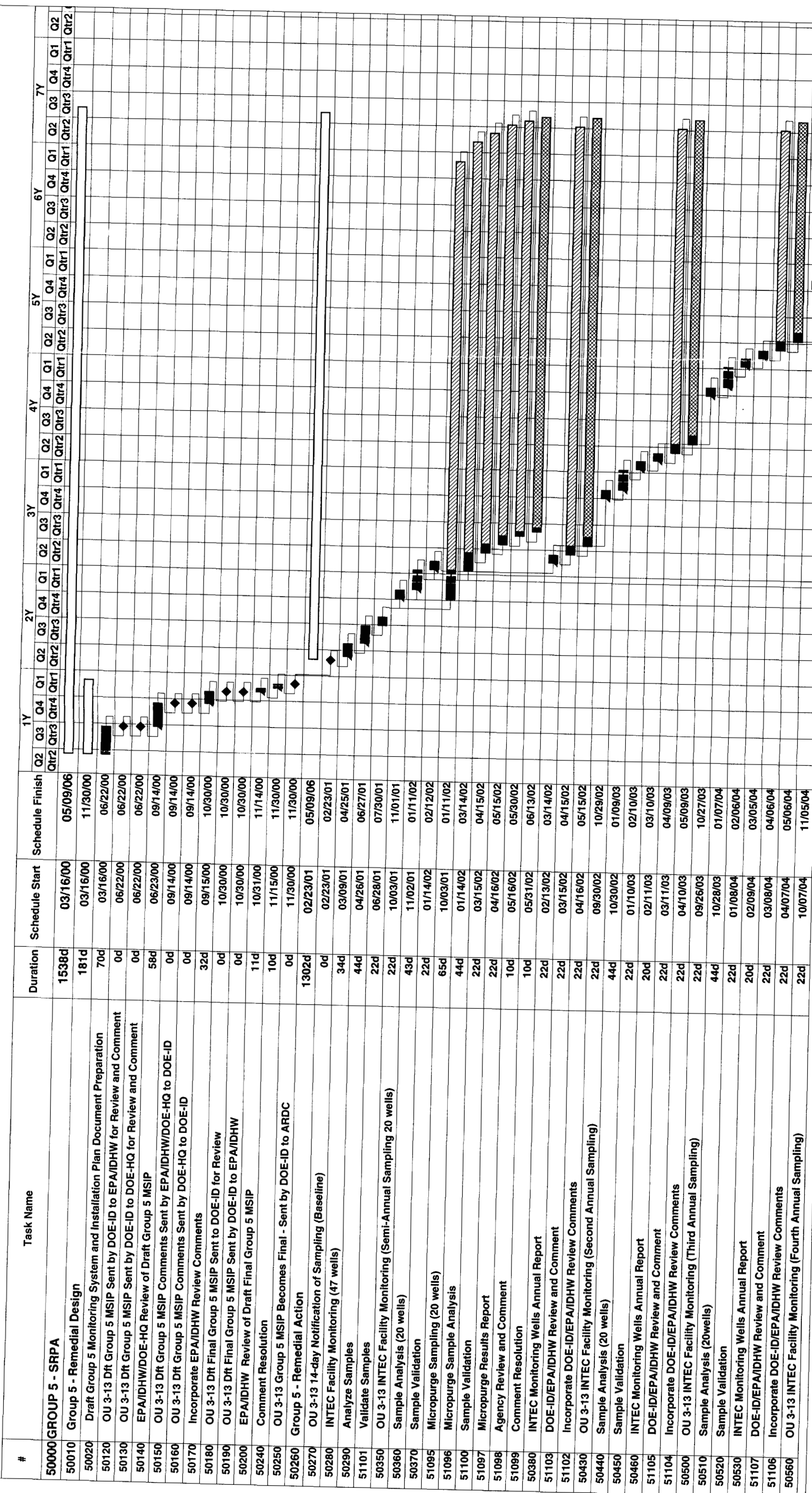
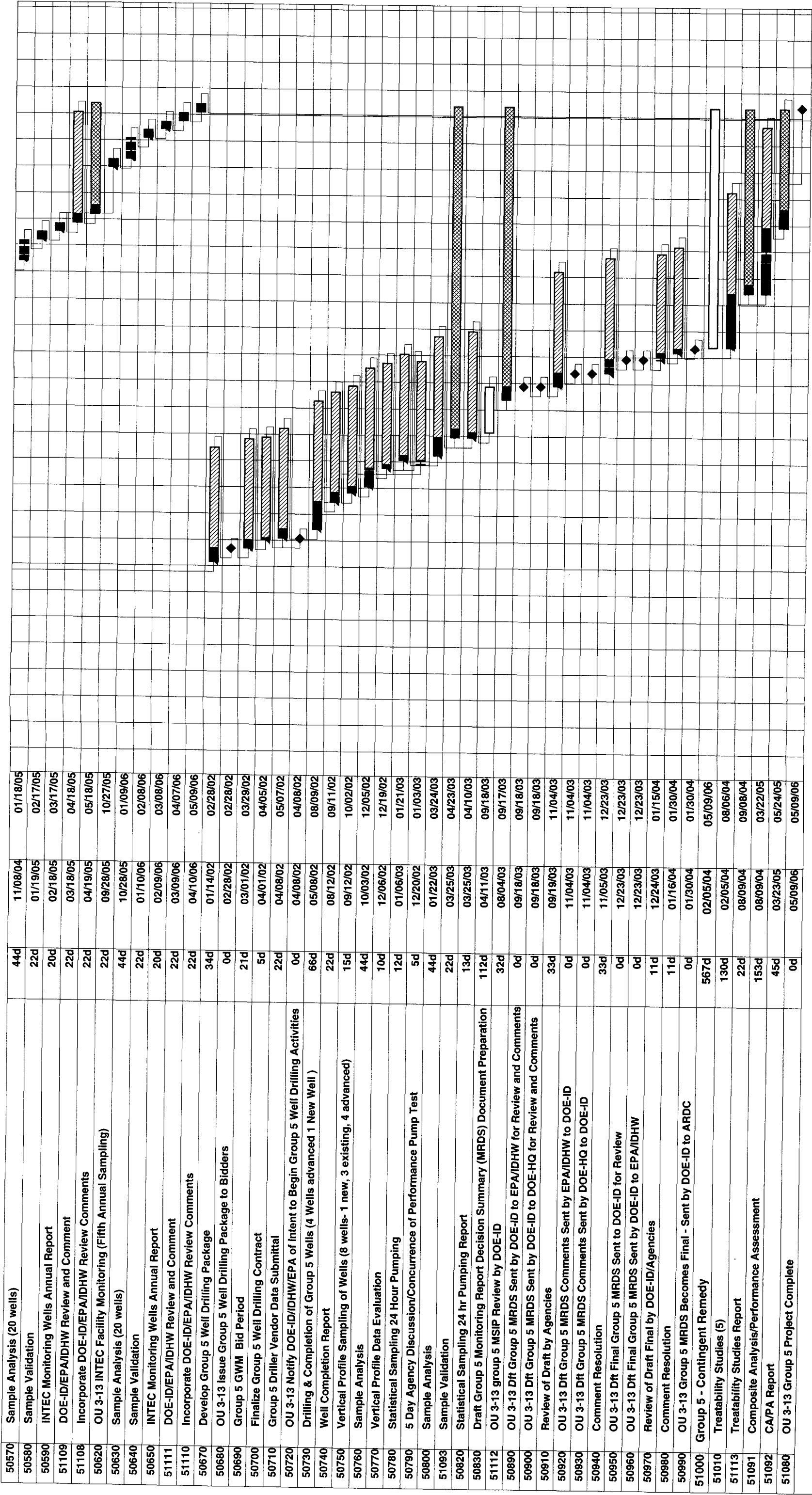


Figure F-1. Schedule for monitoring system and installation plan, OU 3-13, Group 5, Snake River Plain Aquifer.



**Appendix G**

**Health and Safety Plan for Operable Unit 3-13,  
Group 5, Snake River Plain Aquifer**

**INEEL/EXT-2000-00817**  
**Revision 0**

[The document that is the subject of this appendix was provided as an attachment to the original deliverable.]



**Appendix H**

**Waste Management Plan for Operable Unit 3-13,  
Group 5, Snake River Plain Aquifer Project**

**DOE/ID-10829**  
**Revision 1**

[The document that is the subject of this appendix was provided as an attachment to the original deliverable.]

**Appendix I**

**Quality Level Designation and Record**

414.02  
11/10/98  
Rev. 02

## QUALITY LEVEL DESIGNATION AND RECORD

Quality Level Evaluation Performed By: R. G. Thompson Date: 5/15/00

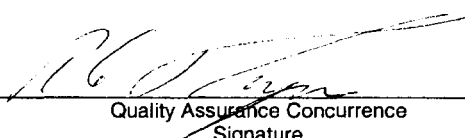
Facility/Structure/System: OU 3-13 Snake River Plain Aquifer Quality Level: 3

IDENTIFICATION OF ITEM	QUALITY LEVEL DESIGNATION	TECHNICAL JUSTIFICATION
Well Drilling & Completion	3	INEEL/INT-2000-00036
Well Sampling & Analysis	3	INEEL/INT-2000-00036

Note: Assign and record quality level in accordance with MCP-540, and obtain appropriate approvals. Completed and approved form becomes a quality assurance record. (Master Equipment List may be used as a Q-List.)

R. G. Thompson

Quality Assurance Concurrence  
Printed/Typed Name

  
Quality Assurance Concurrence  
Signature

5/17/2000  
Date

C. J. Roberts

Facility/Program/Project Approval  
Printed/Typed Name

Facility/Program/Project Approval  
Signature

Date

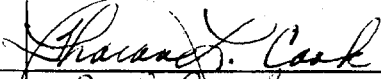

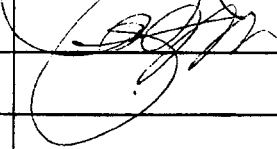
431.02  
08/12/98  
Rev. 06

## ENGINEERING DESIGN FILE

Functional File No. INEEL/INT-99-  
00723  
EDF No. EDF-ER-076  
Page 1 of 1

1. Project File No. \_\_\_\_\_ 2. Project/Task OU 3-13 POST-ROD GROUNDWATER MONITORING

3. Subtask Hazard Classification

4. Title: INTEC Groundwater Monitoring Well Drilling Hazard Classification				
5. Summary: The purpose of this Engineering Design File is to document the hazard classification of the INTEC groundwater monitoring well drilling project and to support the determination that the project can be safely conducted under the auspices of a Health and Safety Plan.				
6. Distribution (complete package): Eric Neher, Carlton Roberts				
Distribution (summary package only):				
7. Review (R) and Approval (A) Signatures:				
	R/A	Printed Name	Signature	Date
Author	R	Tharan L. Cook		7/15/99
Independent Verification	R	Rodney Peatross		7/15/99
Requestor	A	Carlton Roberts		8/2/99

# REQUEST FOR DETERMINATION OF SAFETY ANALYSIS REQUIREMENTS

Date: July 14, 1999

**A. To Be Completed by Project Manager, Project Management Department**

1. Project OU 3-13 Post-Rod Groundwater Monitoring

Project Manager Robert E. James

Mail Stop 3953

Type: ☐ Line Item ☐ GPP ☐ CE ☐ Work Order ☒ Other ER Project

2. Reference Documents Submitted:

Check the documents submitted with this request:

- |  |   |
|--|---|
| <input type="checkbox"/> Technical Functional Requirements | <input type="checkbox"/> Feasibility Studies                |
| <input type="checkbox"/> Design Criteria                   | <input type="checkbox"/> Project Plan                       |
| <input type="checkbox"/> Conceptual Design Report          | <input type="checkbox"/> Work Order                         |
| <input type="checkbox"/> Environmental Evaluation or EIS   | <input type="checkbox"/> Engineering Change Form            |
| <input type="checkbox"/> USQ Screening                     | <input checked="" type="checkbox"/> Other <u>ER Project</u> |

**B. To Be Completed by the Cognizant Safety Analysis Organization**

Task Number \_\_\_\_\_

1. New Facility Project:

- |  |                              |  |
|--|------------------------------|--|
| PSAR required before facility construction?                                | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| New SAR or revision/addendum to an existing SAR required before operation? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Will this be a nuclear facility (see MCP-2446)?                            | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

2. Existing Facility Modifications:

- |  |                              |  |
|--|------------------------------|--|
| USQ evaluation required?                         | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Revision/addendum to an existing SAR required?   | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Descriptive changes to an existing SAR required? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Hazard category/classification                   | <u>Other Industrial</u>      |  |

EH 7/27/99

3. Justification for Items B.1 - B.2:

See attached hazard classification

4. Proposed schedule for Company and DOE approvals of required Safety Analysis:

N/A

**Request for Safety Analysis Approval**

E. E. Hochhalter

Manager, Safety Analysis Unit/Department  
Print/Type Name

E. E. Hochhalter

Manager, Safety Analysis Unit/Department  
Signature

7/27/99

Date

Distribution: Copy for Project Manager; original and one copy to Safety Analysis. Original back to Project Manager when Safety Analysis determination is completed.



# **OU 3-13 GROUNDWATER MONITORING HAZARD CLASSIFICATION**

## **SUMMARY**

The purpose of this hazard classification is to present an evaluation of the potential hazards associated with proposed OU 3-13 groundwater monitoring well drilling activities that could affect the public, the workers, or the environment. This evaluation is based on preliminary project information, the draft OU 3-13 Record of Decision (ROD), and data collected through previous sampling activities.

## **HAZARD CLASSIFICATION**

Groundwater monitoring well construction activities are classified as "other industrial," based on the guidance presented in DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*, DOE-ID N 420.A1, *Safety Basis Review and Approval Process*, and DOE-EM-STD-5502-94, *Hazard Baseline Documentation*, and the OU 3-13 ROD. No appreciable hazardous waste or hazardous chemical quantities have been identified in this hazard classification; nevertheless, the project will be conducted under the administrative control of a health and safety plan (see Appendix G to this report) to ensure compliance with applicable occupational safety and health standards.

## **1. INTRODUCTION**

This project consists of three separate well drilling operations in and around the Idaho Nuclear Technology and Engineering Center (INTEC). These activities, and other INTEC remedial actions, are identified and divided into seven groups, in the INTEC Record of Decision (INEEL 1999). This evaluation addresses the construction of new groundwater monitoring wells planned for Group 5, Snake River Plain Aquifer. Another well drilling operation is planned for monitoring a new INTEC CERCLA Disposal Facility; however, since the location of the facility has not been determined as of this writing, it will not be specifically addressed herein.

## **2. DESCRIPTION**

### **2.1 OU 3-13, Group 5, Snake River Plain Aquifer**

The Snake River Plain Aquifer (SRPA) lies beneath the INTEC at a depth of approximately 450 ft and has been contaminated through operation of injection well CPP-23. Additionally, contaminated soils and perched water have been predicted to continue to contribute contaminants. This project consists of deepening four wells and drilling one new monitoring well south of the INTEC in the zone predicted to contain the highest concentration of I-129 contamination. The wells will be monitored and sampled to determine the need for further remediation and will be drilled to a depth of approximately 650 ft. The locations of the four wells to be deepened and the proposed location of the new well are shown in Figure I-1.

## **3. HAZARDOUS MATERIAL INVENTORY**

### **3.1 Groundwater Contaminants**

DOE Order 5480.23, *Nuclear Safety Analysis Reports*, requires that radioactive and chemical materials be inventoried by type and amount. Those quantities of material are then to be evaluated using the guidance presented in DOE-STD-1027-92 and DOE-EM-STD-5502-94, to establish facility or project hazard categorization. In this case, due to the extremely low quantities of material expected to be encountered during well drilling activities, the inventory of contaminants has been taken from groundwater sampling results that are presented in the Remedial Investigation/Feasibility Study. The values selected are provided in Table I-1.



**Table I-1.** Groundwater sample results.

Snake River Plain Aquifer		
Contaminant	Concentration	TQ/RQ
Sr-90	84 pCi/L	1.6E+01 Ci/ 1.0E-01 Ci
tritium	30,700 pCi/L	1.0E+03 Ci/ 1.0 Ci
Tc-99	448 pCi/L	1.7E+03 Ci/ 10 Ci
I-129	3.8 pCi/L	6.0E-02 Ci/ 1.0E-03 Ci
<u>magnesium</u>	63 µg/L	NA
a. TQ = Threshold Quantity, DOE-STD-1027-92 RQ = Reportable Quantity, 40 CFR 302		
b. Not listed in 40 CFR 302, Table 302.4		

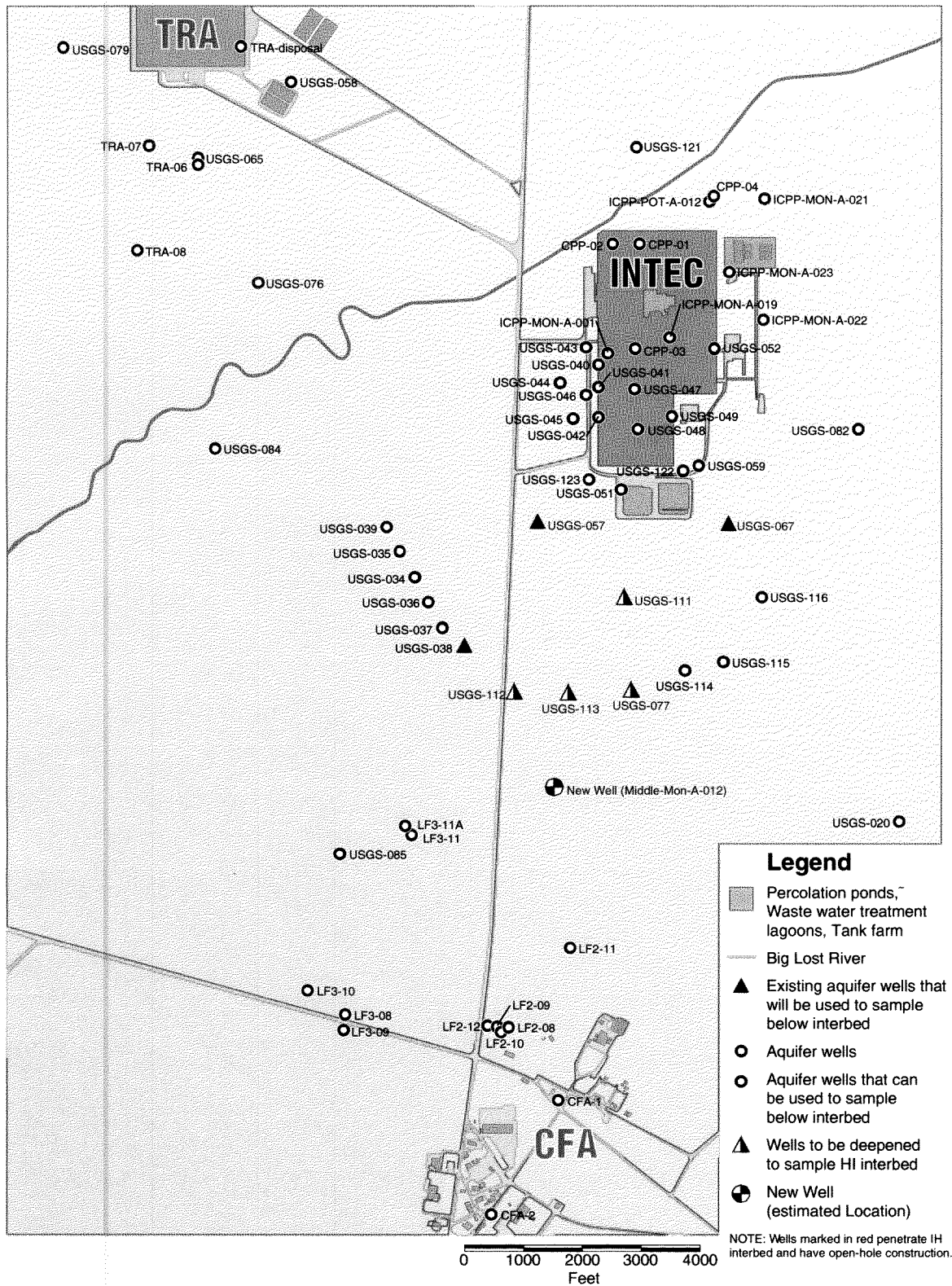
## 3.2 Evaluation

A comparison of the contaminant concentrations to the Threshold and/or Reportable Quantity values shows that many orders of magnitude exist between the levels of radioactive and chemical contaminants expected to be encountered during these well drilling projects, and the classification thresholds. On this basis, there are no radiological or chemical hazards associated with this project. The releasable quantities of contaminants associated with the well drilling activities would be so small as to be negligible and would result in no threat to the workers, the environment, or the public.

Further, Figure I-1 presents an overlay of the proposed locations of the Group 5 monitoring wells and the existing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites inside the INTEC security fence. As can be seen on the drawing, there are no conflicts between proposed well locations and the sites, therefore, none of the wells will be drilled into potential underground hazards and no further analysis is necessary.

## 3.3 General Project Hazards

Table I-2 lists the potential general hazards associated with the OU 3-13 groundwater monitoring well drilling project activities. This list cites common and project-specific hazards, specifies whether they are applicable to the project, identifies the appropriate occupational health and safety standards, and assesses each hazard as being routine or significant. Any hazards determined to be significant are analyzed further while routine hazards will be addressed in the project health and safety plan (Appendix G to this report).



**Figure I-1.** Locations of monitoring wells to be deepened to sample HI interbed and location of new well.

**Table I-2.** Potential general project hazards.

Hazard	Applicable	OSHA/DOE Standard	Routine/Significant
High Voltage (>600 V)	Yes	29 CFR 1910.308(a), .304(f)(7), .303(h)(2), .303(h)(3), .303(h)(4)	Routine
Flammable gases, liquids, or dust	Yes	29 CFR 1910.106, .120, .144, .1200; 29 CFR 1926.152	Routine
Compressed gases	Yes	29 CFR 1910	Routine
Explosive materials	No	NA	NA
Cryogenics	No	NA	NA
Inert and low-oxygen atmospheres (confined spaces)	No	NA	NA
Chemical exposures	No	NA	NA
Nonionizing radiation	No	NA	NA
High-intensity magnetic fields	No	NA	NA
High noise levels	Yes	29 CFR 1910.95, .1200; 29 CFR 1926.52	Routine
Mechanical and moving equipment	Yes	29 CFR 1910.147, .211; 29 CFR 1926, Subpart W	Routine
Working at heights	Yes	29 CFR 1910.25, .28; 29 CFR 1926.951, .451	Routine
Excavation	No	NA	NA
Material handling	Yes	29 CFR 1910.120, .176, .178, .184; DOE-STD-1090-96, "Hoisting and Rigging"	Routine
Aircraft collision	No	NA	NA
Pesticide use	No	NA	NA
High temperature (>125°F on contact or >202°F) and pressure (>25 psig for gas or vapor, or >200 psig for a liquid system)	Yes	29 CFR 1910.120, .1200	Routine
Inadequate illumination	No	NA	NA
Radiological hazardous materials	No	NA	NA
Nuclear criticality	No	NA	NA
Direct radiation	No	NA	NA
Construction	Yes	29 CFR 1926	Routine
Pyrophoric metals	No	NA	NA
Natural phenomena - floods, volcanic activity, earthquakes, etc.	No	NA	NA

## **4. CONCLUSIONS**

### **4.1 Hazard Classification**

Based on the information presented above, the hazard classification of the OU 3-13 groundwater monitoring well drilling project is determined to be “other industrial.” No releasable quantities of hazardous or radioactive materials have been identified, therefore, this project will not present significant, non-routine concerns to the workers, the public, or the environment. There are no general project hazards that have been identified as “significant,” therefore, no further analysis is required. Those general project hazards that have been identified as “routine” will be addressed and administratively controlled through the project health and safety plan (Appendix G to this report).

## 5. REFERENCES

1. 40 CFR 302, July 1999, "Designation, Reportable Quantities, and Notification," *Code of Federal Regulations*, Office of the Federal Register.
2. DOE Order 5480.23, *Nuclear Safety Analysis Reports*, U.S. Department of Energy, March 10, 1994.
3. DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*, Change Notice No. 1, U.S. Department of Energy, September 1997.
4. DOE-EM-STD-5502-94, *Hazard Baseline Documentation*, U.S. Department of Energy, August 1994.
5. DOE-ID N 420.A1, *Safety Basis Review and Approval Process*, U.S. Department of Energy, Idaho Operations Office, May 1998.
6. INEEL, *Comprehensive RI/FS for the Idaho Chemical Processing Plant OU 3-13 the INEEL - Part A, RI/BRA Report (Final)*, DOE/ID-10534, U. S. Department of Energy, Idaho Operations Office, November 1997.
7. INEEL, *Final Record of Decision, Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13*, DOE/ID-10660 Revision 0, October 1999.

**Appendix J**

**Quality Assurance Project Plan for**  
**Waste Area Groups 1, 2, 3, 4, 5, 6, 7, 10, and Inactive Sites**

**DOE/ID-10587**  
**Revision 6**

[The document that is the subject of this appendix was provided as an attachment to the original deliverable.]

**Appendix K**  
**Spill Prevention/Response Program**

# **Appendix K**

## **Spill Prevention/Response Program**

Any inadvertent spill or release of potentially hazardous materials (such as equipment fluids) will be subject to the substantive requirements contained in the INEEL Emergency Plan/RCRA Contingency Plan Implementing Procedures manual (PLN-114). The Table of Contents for the companywide plan, PLN-114, plus the Table of Contents and Addendum 2 for the Idaho Nuclear Technology and Engineering Center PLN-114-2, are attached.

Handling of the material and/or substance shall be in accordance with the recommendations of the applicable material safety data sheets, which will be located at the project site(s). In the event of a spill, the emergency response plan outlined in the project HASP will be activated. All materials/substances at the work site shall be stored in accordance with applicable regulations in approved containers.





INEEL Emergency Plan/ RCRA Contingency Plan	<b>TABLE OF CONTENTS</b>	Identifier: PLN-114-2 Revision: 65 Page: 1 of 3
INTEC		
Document Control Center: (208) 526-1202	Document Owner: Director, Emergency Preparedness	Effective Date: 10/09/00

Manual: 16A2 – Emergency  
Preparedness Addendum 2 - INTEC

Change Number: N/A

The electronic version of this Table of Contents contains links to the primary sections.

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1	Introduction	2
2	Emergency Response Organization	1
3	Offsite Response Interfaces	1
4	Operational Emergency Event Classes	3
5	Notifications and Communications	1
6	Consequence Assessment	1
7	Protective Actions	3
8	Medical Support	1
9	Recovery and Reentry	1
10	Public Information	1
11	Emergency Facilities and Equipment	4
12	Training	1
13	Drills and Exercises	1
14	Program Administration	1
<b>APPENDICES</b>		
D	APPENDIX D – ICPP Maps	3
G	APPENDIX G – Spill Plan	3
H	APPENDIX H – ICPP Emergency Equipment	2
I	APPENDIX I – Emergency Action Managers	7

INEEL Emergency Plan/ RCRA Contingency Plan  INTEC	<b>TABLE OF CONTENTS</b>	Identifier: PLN-114-2 Revision: 65 Page: 2 of 3
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L	APPENDIX L – CPP-1647 – <u>Canceled – TAA Closed</u>	--
L1	APPENDIX L1 – CPP-627 – <u>Superseded by Appendix L1 of PLN-114-2</u>	--
L2	APPENDIX L2 – NORTH OF ICPP TR-35 – <u>Canceled – TAA Closed</u>	--
L3	APPENDIX L3 – TAA CPP-620-HIBAY-02 – <u>Canceled – TAA Closed</u>	--
L4	APPENDIX L4 – TAA CPP-637-113-09	8
L5	APPENDIX L5 – TAA CPP-637-HILO-16 – <u>Canceled – TAA Closed</u>	--
L6	APPENDIX L6 – TAA CPP-659 416-A	8
L7	APPENDIX L7 – TAA CPP-601-PM-A – <u>Canceled – TAA Closed</u>	--
L8	APPENDIX L8 – CPP-602-227-03 – <u>Canceled – TAA Closed</u>	--
L9	APPENDIX L9 – CPP-684-Warmside-04 – <u>Canceled – TAA Closed</u>	--
L10	APPENDIX L10 – CPP-627-SAL-06 – <u>Canceled – TAA Closed</u>	--
L11	APPENDIX L11 – CPP-602-209-11 - <u>Canceled – TAA Closed</u>	--
L12	APPENDIX L12 – CPP-602-224-14 - <u>Canceled - TAA Closed</u>	--
L13	APPENDIX L13 – CPP-1677-126-A	4
L14	APPENDIX L14 – CPP-663-HOTSHOP-A	5
L15	APPENDIX L15 – CPP TB55-000-A – <u>Canceled – TAA Closed</u>	--
L16	APPENDIX L16 – CPP-701-BERM-A – <u>Canceled – TAA Closed</u>	--
L17	APPENDIX L17 – CPP-604-WO-A - <u>Canceled - TAA Closed</u>	--
L18	APPENDIX L18 - <u>Canceled – TAA Closed</u>	--
L19	APPENDIX L19 – CPP-1618-000-A - <u>Canceled – TAA Closed</u>	--

INEEL Emergency Plan/ RCRA Contingency Plan  INTEC	<b>TABLE OF CONTENTS</b>	Identifier: PLN-114-2 Revision: 65 Page: 3 of 3
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<b>TAB</b>	<b>SECTION OR DOCUMENT TITLE</b>	<b>REV.</b>
L20	APPENDIX L20 – CPP-603-SSSTF – A	5
L22	APPENDIX L22 – CPP-666-V131-A - <b><u>Canceled – TAA Closed</u></b>	--
L23	APPENDIX L23 – CPP-666-V132-A - <b><u>Canceled – TAA Closed</u></b>	--
L24	APPENDIX L24 – CPP-666-216-A - <b><u>Canceled – TAA Closed</u></b>	--
L25	APPENDIX L25 – CPP-602-BSMT-A – <b><u>Canceled – TAA Closed</u></b>	--
L26	APPENDIX L26 – TAA for CPP-659-427-A – <b><u>Canceled – TAA Closed</u></b>	--
L27	APPENDIX L27 – TAA INTEC-659-LVC-A – <b><u>Canceled – TAA Closed</u></b>	--
L28	APPENDIX L28 – CPP-653-000-A	1
L29	APPENDIX L29 – TAA CPP-659-DVC-A	2
L30	APPENDIX L30 – TAA CPP-659-419 - <b><u>Canceled- TAA Closed</u></b>	--
L31	APPENDIX L31 – CPP-708-RATA-B	2
L32	APPENDIX L32 – CPP-1618-000-B - <b><u>Canceled - TAA Closed</u></b>	--
L33	APPENDIX L33 – TAA CPP-1619-000-A	0
L34	APPENDIX L34 – CPP-TFSP-ECA97-A	1
L35	APPENDIX L35 –INTEC-CPP-601-PM-B - <b><u>Canceled - TAA Closed</u></b>	--
L36	APPENDIX L36 – CPP-659-323-A	1
L37	APPENDIX L37 – INTEC-606-ES-A – <b><u>Canceled – TAA Closed</u></b>	--
L38	APPENDIX L38 INTEC-659-LEV3-A	2
L39	Appendix L39-INTEC-TFA Soil Piles	0

INEEL Emergency Plan/RCRA Contingency Plan	<b>ADDENDUM 2, IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER (INTEC), APPENDIX G, SPILL PLAN</b>	Identifier: PLN-114-2 Revision: 3 Page: G-1 of G-24
INTEC Facility		
Document Control Center: (208) 526-1202	Document Owner/Approver: Manager, Emergency Preparedness	Effective Date: 05/17/99

Manual: 16A2 – Emergency  
Preparedness Addendum 2 –  
INTEC

**CATEGORY 1**

DAR Number: 21249

**NOTICE:** The LMITCO intranet version of this document is the current revision.

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INEEL Emergency Plan/RCRA Contingency Plan INTEC Facility	<b>ADDENDUM 2, IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER (INTEC), APPENDIX G, SPILL PLAN</b>	Identifier: PLN-114-2 Revision: 3 Page: <b>G-2</b> of G-24
--	--	--

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INEEL Emergency Plan/RCRA Contingency Plan INTEC Facility	<b>ADDENDUM 2, IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER (INTEC), APPENDIX G, SPILL PLAN</b>	Identifier: PLN-114-2 Revision: 3 Page: G-3 of G-24
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## **G1. RELEASE, SPILL, OR LEAK OF HAZARDOUS MATERIAL**

### **G1.1 General**

Hazardous chemicals and fuel in various quantities are used and stored throughout the Idaho Nuclear Technology and Engineering Center [(INTEC) formerly ICPP]. These substances could be released (a) during an accident involving handling of the substances or (b) as a result of a more general emergency, such as a fire, explosion, or tank failure. A list of hazardous chemicals handled or stored in an area is included as appropriate in facility-specific information for that area. The lists specify the maximum quantity of material allowed, although typical quantities may be significantly less. Personnel are trained to consult these lists, appropriate material safety data sheets, and appropriate emergency response procedures before approaching any area or accident involving a chemical leak or spill.

If emergency response is necessary, the emergency action manager directs activation of the Incident Response Team (IRT). The emergency action manager may request additional assistance from the Idaho National Engineering and Environmental Laboratory (INEEL) HazMat Team as needed.

All other personnel evacuate the immediate area. Personnel outside of that area remain at their stations unless otherwise directed by a voice paging announcement. The evacuation of a large area or entire building is unlikely due to the localized use of hazardous materials. However, standard evacuation practices would be used if such evacuation is appropriate for a specific accident.

### **G1.2 Radiological**

A release of radioactive material could cause wide spread contamination over a large area of INTEC. This could occur as a result of a fire or explosion in a radioactive materials container. Leaks of a radioactive vapor may cause similar contaminations as particles in the vapor settle.

### **G1.3 Nonradiological**

Nonradiological chemicals used throughout INTEC could result in a hazardous situation in which personnel might come in contact with the hazardous chemical. Much care must be given when cleaning up the spill or leak so that IRT members do not endanger their own or other lives. A planned procedure must be followed so additional emergency situations can be avoided.

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## **G2. ACTIONS TO BE TAKEN IN RESPONSE TO A RELEASE, SPILL, OR LEAK**

Certain steps need to be followed when dealing with any chemical spill or leak that is encountered, although the actual extent of the actions taken will be dictated by the specifics of the release, which would include the nature, volume, and location of the release. The following steps must be taken by operations and/or emergency response personnel in dealing with any release.

1. If the release involves a flammable/combustible liquid, contact the fire department (777) immediately.
2. Assist any employees that have been exposed to the release, or have suffered an injury, in receiving proper first aid and/or immediate medical attention.
3. Take steps to secure the area to prevent inadvertent exposure to the release or release byproduct (vapor or gases) by other personnel. This can be done by using safety rope and/or signs or by directing personnel to remain stationed in certain locations.
4. Contact the immediate job supervisor, the building Tenant Manager, the plant shift supervisor, the Radiation Controls (RADCON) supervisor, the INTEC environmental support supervisor, and the Environment, Safety, and Health (ES&H) manager. These notifications are important, especially for obtaining guidance to handle the incident properly.
5. Obtain proper personnel protective equipment to control, clean up, and dispose of the released material as directed by industrial safety, material management, and environmental assurance personnel. The type of protective clothing and other equipment required will be delineated on a required hazardous work permit. If the material released is radioactive, contact a Radcon supervisor as well as industrial safety personnel. Handling of radioactive materials will require a radiation work permit. When details regarding the release are not available, a conservative approach is mandatory: air-supplied respiratory equipment and full-body protective clothing must be worn.
6. Take steps to control the release. This may involve shutting certain valves, diking the area (e.g., use sandbags, berms, or spill-control pillows), and/or applying an absorbent or neutralizing compound directly to the release. It is important, when utilizing an absorbent or neutralizing compound, that an appropriate product is utilized that will not have an unwanted chemical reaction, which could produce a more hazardous situation. Industrial and INTEC environmental support personnel will specify the product to be used to absorb or neutralize the released material; if radioactive, contact a Radcon supervisor.



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7. Conduct the clean-up, storage and/or disposal of the waste under the direction of industrial hygiene, environmental support, and, if the waste is radioactive, a Radcon supervisor. However, the treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material resulting from a release, fire, or explosion immediately after the emergency, shall be accomplished by methods approved only by the INTEC environmental support supervisor. Ensure that incompatible wastes are not treated, stored, or disposed of in the affected areas before cleanup procedures have been completed.
8. Clean all emergency equipment used in the affected area and restore the equipment to its ready condition, fit for its intended use. Equipment or protective clothing which cannot be suitably cleaned and returned to service shall be replaced by clean, equivalent equipment. Obtain the assistance of Industrial Hygiene and environmental support personnel for proper disposal of the used equipment and protective clothing.
9. Ensure that all reporting requirements and forms are completed.

For all situations, it is recommended that conservative actions be taken that assume a worst-case situation to ensure that (a) personnel are not exposed to the chemical release or to possible byproducts of the release, (b) physical damage to the facilities is kept to a minimum, and (c) no environmental hazards are created. Additionally, in the event facility operations are shut down in response to a fire, explosion, or hazardous material release, affected process or facility equipment or components should be monitored for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, vessels or other equipment.

## **G2.1 Remedial Actions for Leaking Process Components and Other Equipment**

The remedial action plans for leaking processes (pipes, valves, tanks, etc.) at INTEC is outlined below and is broken down into three specific cases depending on the type of leak discovered.

### **G2.1.1 Leakage From/Without Secondary Containment**

This category involves direct leakage to the environment due to failure of secondary containment or the absence thereof. In this event, the following actions will be required:

1. If the solution is known or can be proven to be nonhazardous, no specific controls are required. Appropriate mitigative steps will be taken to minimize the extent of the leak.

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2. If the solution is hazardous or if its hazardous nature is unknown, the following steps will be required.

- a. Immediately notify senior management.
- b. Take prompt measures to minimize the amount of solution reaching the environment. These actions should be initiated immediately and shall include taking the failed tank or other equipment out of service and, if possible, transferring the contents of the leaking tank to another tank.

- c. When the release equals or is in excess of reportable quantities, the full requirements of the plan shall be in effect. If such is the case, the release must be reported to the Warning Communications Center (6-1515), the Environmental Protection Agency (EPA) Regional Administrator, the State of Idaho, and other local authorities.

However, any leak, release, or structural defect to an interior wall embedded waste line penetration (which may affect secondary containment integrity) requires immediate notification of Regulatory Affairs.

Notification of Department of Energy Idaho Operations Office (DOE-ID) must occur within 12 hours of detection for lines granted secondary equivalency. The line must be taken out of service within 24 hours of detection. DOE-ID must notify the State of Idaho within 24 hours of detection.

- d. If the release is less than the reportable quantities, the plan may be partially implemented in response to the release. Additionally, the spill may be required for inclusion in SARA reports.

3. If the leak was from a failed secondary containment, the system will be repaired or otherwise operated in such a manner to ensure no environmental releases are possible prior to use of the tank or equipment. If the leak was from primary containment, without a secondary containment system, a secondary containment system will be provided prior to subsequent use.

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4. If the leakage is later found to be nonhazardous, when it was originally, conservatively assumed to be hazardous, the steps outlined above are not necessary.

#### **G2.1.2 Leakage From Primary To Secondary Containment (High Integrity)**

In this case, leakage is to a secondary containment system that meets applicable criteria of compatibility with the waste and adequate protection against the potential for leakage to the environment. Once leakage is detected, the following actions will be required:

1. If the solution is known or can be proven to be nonhazardous, no specific actions are necessary provided the amount of leakage, if not removed from secondary containment, will not impair the ability of the leak detection mechanism to detect future leaks.
2. If the solution is or might be hazardous, the following steps will be required:
  - a. Immediately notify senior management.
  - b. Take prompt measures to minimize the amount of solution reaching the secondary containment. This could include a variety of actions such as isolation, transfer to a parallel tank, etc.
  - c. Evaluate the physical characteristics of the leak. Attempt to identify the source of leakage, the amount or rate of leakage, composition of the solution, etc.
  - d. If the leak cannot be repaired remotely and other conditions such as high radiation fields prohibit a direct hands-on repair effort, appropriate personnel will be convened to determine the proper course of action. As a minimum, representatives from INTEC Environmental Support; Industrial Hygiene; and the department responsible for the affected system will be notified. The type of corrective action will consider the severity of the leak and the actions necessary for repair. The evaluation will consider the leak rate, composition of the solution, radiation exposures necessary for repair, the extent of decontamination required to complete repair and other pertinent factors. Under no circumstances will the leakage be permitted to threaten the environment. The amount of leakage, if allowed to persist, must be

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sufficiently small that it will not prevent the leak detection mechanism from functioning. Furthermore, the leakage will be removed from the secondary containment and stored or disposed of in accordance with established procedures.

3. The following corrective actions will be considered for selection:
  - a. Shut down the affected system and repair the leak immediately.
  - b. Shutdown the affected system and initiate actions to prevent further leakage before reuse. Evaluate system repair during the next available maintenance turnaround.
  - c. Continue operation with additional controls to minimize the amount of leakage. Evaluate system repair during the next available maintenance turnaround.
4. The course of action taken will be documented and justified with approval of senior management. Any surveillance activities for previously identified leaks will evaluate any changes to the amount or type of leakage. If leakage worsens, additional corrective actions and evaluations will be made. These actions will likewise be documented and approved by senior management.
5. Leakage that does not enter the environment will not require formal spill reporting to the EPA or the State of Idaho but may be required for inclusion in Superfund Amendments and Reauthorization Act of 1986 reports. Proper documentation regarding all key aspects of the leak should be well organized and auditable.

However, any leak, release, or structural defect to an interior wall embedded waste line penetration (which may affect secondary containment integrity) requires immediate notification of environmental compliance. Notification of DOE-ID must occur within 12 hours of detection for lines granted secondary equivalency. The line must be taken out of service within 24 hours of detection. DOE-ID must notify the State of Idaho within 24 hours of detection.

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### **G2.1.3 Leakage From Primary To Secondary Containment (Limited Integrity)**

In this category, leakage is to a secondary containment that does not meet applicable criteria of compatibility with the waste or adequate protection against the potential for leakage to the environment. If leakage of this type is detected or suspected, the following actions will be required:

1. If the solution is known or can be proven to be nonhazardous, no specific actions are necessary provided the amount of leakage, if left in the secondary containment, will not impair the ability of the leak detection mechanism to detect future leaks.
2. If the solution is or might be hazardous, the following steps will be required:
  - a. Immediately notify senior management.
  - b. Take prompt measures to minimize the amount of solution reaching secondary containment. A variety of appropriate corrective actions could be utilized but must include taking the failed system out of service.
  - c. Ensure the solution is removed from the secondary containment before the time interval for compatibility is exceeded.
  - d. If previous corrective actions have not completely stopped the leak, or allowed removal of the leakage from secondary containment, the leak will be treated as a release to the environment and handled in accordance with applicable guidelines.
  - e. If previous corrective actions completely stopped the leak and the leaked solution was promptly removed such that no environmental release resulted, a specific evaluation will be conducted. This evaluation will be held in conjunction with the DOE-ID to determine the proper course of action. This evaluation must be completed prior to returning the system to operation.

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However, any leak, release, or structural defect to an interior wall embedded waste line penetration (which may affect secondary containment integrity) requires immediate notification of environmental compliance. Notification of DOE-ID must occur within 12 hours of detection for lines granted secondary equivalency. The line must be taken out of service within 24 hours of detection. DOE-ID must notify the State of Idaho within 24 hours of detection.

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### G3. SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

#### INTEC Persons with SPCC Plan Responsibilities

M. G. Lewis *M. G. Lewis* 4/16/99  
Phone: 526-5944 Signature Date  
Pager: 6963

K. L. Miller *K. L. Miller* 4/19/99  
Phone: 526-9733 Signature Date  
Pager: 5336

#### Approval

ES&H Manager, INTEC  
M. Vorachek *M. Vorachek* 4/19/99  
Phone: 526-6925 Signature Date  
Pager: 4412

#### Area Director, INTEC

The Spill Prevention, Control, and Countermeasures Plan will be implemented as herein described:

J. Hovinga *J. Hovinga* 4/27/99  
Phone: 526-6334 Signature Date  
Pager: 7957

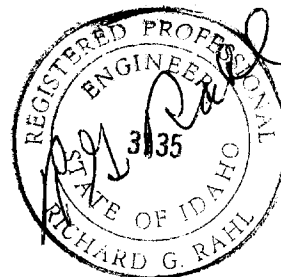
#### Certification

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR 112, attest that this plan has been prepared in accordance with good engineering practices.

Richard G. Rahl  
Printed Name of Registered Professional Engineer

*R. G. Rahl*  
Signature of Registered Professional Engineer

Date 4/6/99 Registration Number 3135 State ID



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## **G3.1 GENERAL INFORMATION**

### **G3.1.1 Regulatory Background**

This Spill Prevention, Control, and Countermeasures (SPCC) Plan has been prepared in accordance with 40 Code of Federal Regulations (CFR) 112, Oil Pollution Prevention. It addresses both aboveground and underground oil storage tanks, including electrical transformers with 660 gallons or more of oil, at the Idaho National Engineering and Environmental Laboratory's (INEEL) Idaho Nuclear Technology and Engineering Center (INTEC).

In accordance with 40 CFR 112.1(a), the purpose of this SPCC plan is to establish requirements "to prevent the discharge of oil, through a spill event, from nontransportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines." A spill event is defined as a release of enough oil to navigable waters of the United States to violate applicable water quality standards, to cause a film or sheen on or discoloration of the water or adjoining shorelines, or to cause a sludge or emulsion to be deposited beneath the surface of the water or on adjoining shorelines [40 CFR 110.5 (a) and (b)].

### **G3.1.2 Facility Description**

1. Name of facility INTEC, INEEL (see Figure 1)
2. Type of facility Receive and store spent nuclear fuel and prepare it for final disposition
3. Location of facility Approximately two miles north of the Central Facilities Area
4. Name of owner U.S. Department of Energy
5. Address of owner U.S. Department of Energy Idaho Operations Office  
785 Department of Energy Place  
Idaho Falls, ID 83401-1562
6. Person(s) with SPCC responsibilities Page G-11



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- ARA Auxiliary Reactor Area
- ANLW Argonne National Laboratory - West
- CFA Central Facilities Area
- CTF Contained Test Facility
- EBR-I Experimental Breeder Reactor I
- EBR-II Experimental Breeder Reactor II
- INTEC Idaho Nuclear Technology & Engineering Center
- IET Initial Engine Test
- NRF Naval Reactors Facility
- PBF Power Burst Facility
- RWMC Radioactive Waste Management Complex
- STF Security Training Facility
- TAN Test Area North
- TRA Test Reactor Area
- TREAT Transient Reactor Test (Facility)
- TSF Technical Support Facility
- WRRTF Water Reactor Research Test Facility
- ZPPR Zero Power Plutonium Reactor

\* National Historic Landmark

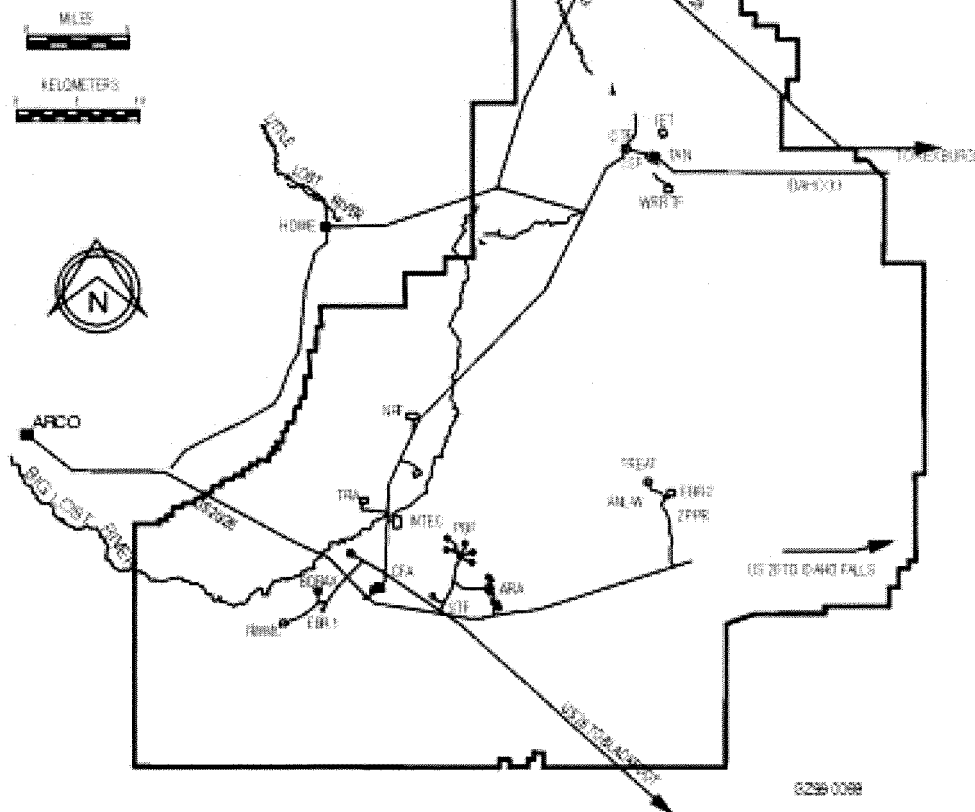


Figure 1. Location of the INTEC within INEEL boundaries.

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The INTEC is one of the principal facilities at the United States Department of Energy's (DOE) INEEL, located approximately 50 miles west of Idaho Falls and north of State Highway 20 (see Figures 1 and 2). INTEC began operation in 1953. INTEC's original mission was to receive, store, and reprocess spent nuclear fuel from test and research reactors in the United States and foreign countries, including the U.S. Navy's ship propulsion reactors. In 1992, INTEC's mission was changed to receive and store spent nuclear fuel and prepare it for final disposition.

The INTEC is located on relatively flat terrain (less than one percent grade with localized depressions) made up of poorly sorted gravel and gravely, coarse sand with abundant well-rounded small cobbles and traces of silt and clay, most of which has been disturbed and replaced with gravel. The gravel acts as a natural velocity dissipation control for surface flows. The Big Lost River is an intermittent stream that flows two to four weeks out of the year and terminates into a local playa.

### **G3.2 SPILL EVENTS**

The INTEC has never had a spill event as defined in 40 CFR 110.5 (a) and (b).

### **G3.3 OIL STORAGE CAPACITY**

Table G3.3.1 lists the aboveground storage tanks (ASTs) and Table G3.3.2 the underground storage tanks (USTs) at INTEC that are subject to SPCC regulations.

Table G3.3.3 lists those transformers at INTEC that are subject to SPCC regulations. Based on a teleconference with Environmental Protection Agency (EPA) Region X personnel, only electrical equipment with a capacity of 660 gallons or greater needs to be addressed in an SPCC plan.

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**Table G3.3.1** Aboveground storage tanks.

Location	Tank	Content	Gallons	Status	Comments
E of CPP-701	VES-UTI-681	#2 fuel oil	244,000	Active	Boiler fuel
E of CPP-701	VES-UTI-682	#2 fuel oil	57,000	Active	Boiler fuel
S of CPP-1682	VES-KRS-100	kerosene	10,000	Active	Replaced VES-WDS-100 and -101
S of CPP-1682	VES-KRS-101	kerosene	10,000	Active	
S of CPP-702	VES-WDS-100	kerosene	20,000	Inactive	Out of service
S of CPP-702	VES-WDS-101	kerosene	20,000	Inactive	Out of service
N of CPP-644	VES-UTI-102	diesel	3,000	Active	CPP-644 standby generator
N of CPP-775	VES-CFG-6011	#2 fuel oil	1,500	Active	CFSGF, boilers
CPP-1642	VES-UTI-113	diesel	560	Active	Diesel, firewater pump fuel
CPP-1643	VES-UTI-114	diesel	560	Active	Diesel, firewater pump fuel
CPP-614	VES-UTI-620	diesel	300	Active	Diesel, raw water pump fuel
CPP-637	VES-YDC-105	kerosene	500	Active	Pilot plant experiments
CPP-1749	VES-YDA-107	diesel	165	Active	Diesel, water pump fuel
CPP-644	VES-656	diesel	50	Active	CPP-644 standby generator day tank
CPP-616	COM-UTI-616	diesel	180	Active	Plant air compressor
Total:			367,815		

**Table G3.3.2** Underground storage tanks.

Location	Tank	Content	Gallons	Status	Comments
SE cor. of CPP-659	VES-NCE-140-1	diesel	5,000	Active	Standby generator
SE cor. of CPP-659	VES-NCE-140-2	diesel	5,000	Active	Standby generator
S of CPP-660	VES-SAA-152	diesel	2,500	Active	Gas Boy pumps
S of CPP-660	VES-SAA-153	gasoline	5,000	Active	Gas Boy pumps
Total:			17,500		

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**Table G3.3.3** Transformers 660 gallons or greater.

Location	Transformer	Content	Gallons	Status	Comments
B21-620 substation	6-073	oil	6,400	Active	No PCBs
B21-620 substation	6-074	oil	6,400	Active	No PCBs
Total:			12,800		

### G3.4 OIL FLOW DIRECTION AND FACILITY DRAINAGE

Figure 2 shows the surface drainage flows at INTEC. The nearest waters of the U.S. is the Big Lost River (BLR), which is outside the northwest corner of the facility.

Except under extreme conditions, all INTEC drainage is retained at the facility. The facility is surrounded by a stormwater drainage system with discharges to an abandoned gravel pit located on the east side. The abandoned gravel pit does not discharge to waters of the U.S. Liquid effluent within the pit either evaporates or infiltrates.

Aboveground CPP-701 storage tanks VES-UTI-681 and VES-UTI-682 contain the bulk of the total oil stored at INTEC, and are the greatest potential source for a major oil spill. The Big Lost River is approximately 1,200 ft to the northwest. Surface drainage around the tanks, however, is to the east, away from the Big Lost River.

Surface drainage near aboveground storage tanks VES-KRS-100 and -101, which are located south of CPP-1682, is to the south, then east. Drainage near tanks VES-WDS-100 and -101, which are south of CPP-702, is to the south, then east. Drainage near tank VES-UTI-102, which is north of CPP-644, is to the north, then east. Drainage near VES-CFG-6011 is to the north. Drainage near VES-UTI-620 is to the east. Drainage near VES-UTI-113 and -114 is to the south, then east. Drainage near VES-YDC-105 is to the west. Drainage near tank VES-YDA-107, located inside CPP-1749, is to the south, then west.

Surface drainage near underground storage tanks VES-NCE-140-1 and -2 is north, then east. Surface drainage near underground storage tanks VES-SAA-152 and -153 is to the north, then east. Surface drainage near new substation B21-620 is to the north.

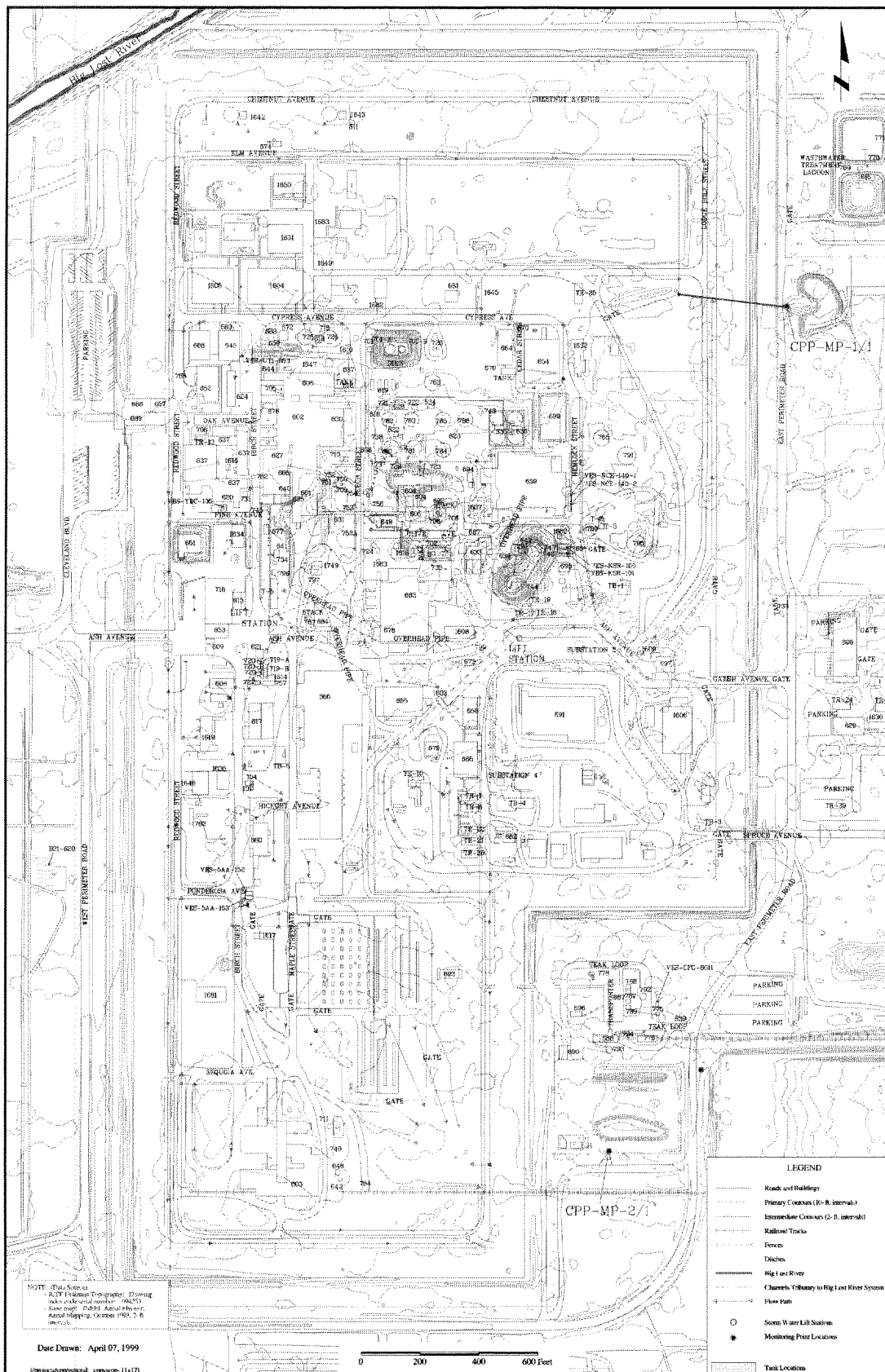


Figure 2. INTEC facility map.

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### **G3.5 OIL SPILL CONTAINMENT AND DIVERSIONARY STRUCTURES AND EQUIPMENT**

Containment and diversionary structures are provided to prevent discharged oil from reaching a navigable water course.

All ASTs, with the exception of COM-UTI-616, have some form of secondary containment. Tank COM-UTI-616 is located inside a building, but does not have secondary containment. Tanks VES-UTI-102, VES-CFG-6011, VES-KRS-100, and VES-KRS-101 have leak detection and associated alarm systems. All other AST secondary containments are checked once a shift for leaks.

The CPP-701 aboveground storage tanks (VES-UTI-681 and -682) are contained within a 10-ft high earthen berm that has sufficient capacity to contain the contents of the largest single tank plus sufficient freeboard to allow for precipitation, or the entire contents of both tanks should they rupture simultaneously.

Tanks VES-WDS-100 and -101 are surrounded by an earthen berm designed to contain the contents of one tank. These tanks are 20,000 gallon capacity each, but presently contain approximately 400 gallons of kerosene each. They have been placed out of service and are slated for removal. Tanks VES-KRS-100 and -101 are carbon steel tanks built within a concrete vault, constructed in 1996. The vault can hold 110% of one tank. The vault also has local and remote leak detection alarms to indicate when a leak occurs.

Tanks VES-UTI-102 and VES-CFG-6011 are constructed of single-wall carbon steel and seated within individual concrete vaults designed to hold 110% of tank contents. VES-UTI-102 provides fuel for the standby generator located in CPP-644. VES-CFG-6011 provides fuel for the standby generator and boilers at the Coal Fired Steam Generation Facility, and holds 1,500 gallons. VES-UTI-620, 300 gallons, is constructed of steel and is situated in a concrete vault. VES-UTI-113 and -114, both 560 gallons, are also steel tanks situated above concrete vaults. VES-YDC-105 is steel tank enclosed in concrete (Convault design) with interstitial monitoring. VES-YDA-107, 165 gallons, is constructed of steel and is surrounded by a curbed area. The curbed area will hold 215 gallons. VES-UTI-656 is a 50-gallon steel tank located inside CPP-644. Building CPP-644 acts as secondary containment. Building CPP-616 contains a diesel powered plant air compressor. This compressor (COM-UTI-616) has a 180-gallon diesel fuel tank, which is an integral part of the compressor. A small spill would be contained in the building; however, larger spills could reach the environment.

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All USTs have double containment and are equipped with interstitial leak detection in the interstitial area. If a leak occurs, it would be contained by the secondary liner. Repairs would include removal of the tank to either repair the primary liner or replace the tank.

Underground storage tanks VES-NCE-140-1 and -2 contain diesel fuel for NWCF standby generators. These tanks are double-wall fiberglass-reinforced plastic (FRP) and were installed in 1995 to comply with 40 CFR 280 UST regulation upgrades. Each tank contains 5,000 gallons with interstitial leak detection.

Tank VES-SAA-152 is a 2,500-gallon fiberglass-reinforced plastic (FRP), double contained tank. It contains diesel for vehicle refueling. It was installed in 1995 as part of the INTEC tank upgrade project to meet 40 CFR 280 UST requirements. The tank has interstitial monitoring that alarms when any leakage is detected.

Tank VES-SAA-153 is a 5,000-gallon fiberglass-reinforced plastic (FRP), double contained tank. It contains gasoline fuel for vehicle refueling. It was installed the same time as VES-SAA-152 in 1995 to comply with the UST regulations. It also has interstitial monitoring to detect any leaks from the primary containment tank with local leak detection alarm. The two electrical transformers of concern listed in Table G3.3.3 are located in substation yards with deep gravel bases, which can hold the contents of the largest single transformers. Oil in these transformers contain no PCBs.

INTEC is completely surrounded by a storm water drainage system that does not discharge to waters of the U.S. In the unlikely event that oil entered this drainage system, it would be contained within the system.

### **G3.6 MISCELLANEOUS CONTROL MEASURES**

Catch pans are placed under the fill connections to prevent spills when fuel is unloaded from the delivery trucks. USTs have spill control cabinets inside the building of the equipment they feed. The Gas Boy dispensing pumps at CPP-660, which feed from UST VES-SAA-152 and -153, also have spill control equipment in case of failure.

### **G3.7 FAIL-SAFE ENGINEERING**

The material and construction for all tanks at INTEC are compatible with the materials stored. All tanks have external direct vision and/or electronic liquid level sensing devices. The type of containment for each tank has been described previously as well as the response to any leak detection.

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All USTs are constructed of fiberglass, which is compatible with oil and petroleum products and not subject to galvanic corrosion. Tanks are engineered with sufficient structural integrity to withstand load demands. Each UST has a leak-detection system. Periodic pressure testing is not required on these types.

All ASTs have mechanical fuel-level indicators on the outside of the tanks, which allow the operators and fuel handlers to know how much fuel is in the tanks. Tanks VES-KRS-100 and VES-KRS-101 also have high-level alarms for protection against overflow. These alarms also alert Operations personnel of piping or tank failure because they are also triggered when low-level conditions are present. All fill pipes and ports are protected from traffic by either guards or distance.

Aboveground tanks are subjected to periodic visual examination.

All newly installed buried pipelines have protective coatings or cathodic protection. All newly installed underground piping that is pressurized is sleeved for secondary containment.

Traffic at the INTEC facility is limited because of the high degree of security at the facility. No overhead piping systems are outside of buildings exposed to traffic and those systems located inside buildings are designed with sufficient clearance that there is no risk of collision with utility or transport vehicles.

Gasoline and diesel Gas Boy dispensers have high alarms on their storage tanks, which activate at 95% full.

The fuel delivery trucks have pressure sensitive cut-off nozzles, which shut off the fuel flow when the tank is full.

### **G3.8 WASTEWATER EFFLUENT**

No sewage or process wastewater is discharged directly to waters of the United States.

The main sewage system at INTEC consists of five lift stations. Three of the lift stations (CPP-768, CPP-1772, and CPP-724) pump their waste through a sewage grinder into a third main station, CPP-728. This main station and the east side station, CPP-733, pump all sewage to the Sewage Treatment Plant (STP) on the northeast side of the facility. Treated wastewater from the STP is then discharged to a series of rapid infiltration trenches. The only plausible way for oil to enter the sewage disposal system is through manholes. There are also a number of septic tanks at INTEC. The tanks, however, discharge to drain fields via buried pipes and are therefore not a significant concern.



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Process wastewater at INTEC goes to CPP-797 lift station, the final sampling and monitoring station. From there it is pumped to CPP-1779 percolation ponds (YDG326 and YDG327). The wastewater system is sufficiently tight that it is not plausible that oil could enter the system.

### **G3.9 CORRECTION OF OIL LEAKS**

INTEC has a work control maintenance program to ensure that oil leaks are corrected promptly upon discovery. Work order control is accomplished by following MCP-2798, Maintenance Work Control.

### **G3.10 PORTABLE/TEMPORARY TANKS**

Portable/temporary oil storage tanks may be brought onto the facility and covered under this SPCC plan if the owner/operator of the tank submits and obtains approval of form 435.33 from the facility's responsible SPCC person (see page G-11).

### **G3.11 SPILL RESPONSE**

Should a spill occur, the facility needs to follow the INEEL Emergency Plan/RCRA Contingency Plan, which describes measures to be taken to prevent, control, and clean up any chemical or oil spills at the facility. The Emergency Action Manager needs to respond also to requirements in MCP-190, Occurrence Reporting, and MCP-439, Facility Notification and Release Reporting. One of the primary goals of the response action is to prevent discharged oil from reaching waters of the U.S. and causing other damage or injury. Copies of the INEEL Emergency Plan/RCRA Contingency Plan are maintained and are to be used in conjunction with this SPCC Plan.

The general procedure for oil spill response is as follows:

1. Control the spill at the source.
2. Identify the area of the spill.
3. Secure the area of the spill.

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4. Quantify the spilled material using one or more of the following methods:
  - a. Subtract volume in the tank after the spill from volume before the spill.
  - b. Quantify amount of spilled material recovered.
  - c. Measure or estimate dimensions of spilled area.
  - d. Any other method appropriate for quantifying the spill.
5. Report spill to the Plant Shift Supervisor (PSS). This report should include the following spill information:
  - Time
  - Location
  - Material
  - Quantity
  - Source
  - Cause
  - Release area.

The Spill Notification Team (SNT) at Pager No. 6400 should be contacted promptly. It is the Plant Shift Supervisor's responsibility to ensure that the SNT is contacted, and to assist them in making the correct notifications. Depending on the source, volume, and location of the spill, notifying several persons and agencies may be necessary.

None of the containment areas (i.e., berms or buildings) has valves that enable drainage from the containment; therefore, personnel respond to a spill by either using sorbent materials to absorb the spillage or pumping the spillage depending on circumstances. Contaminated materials, including soil, resulting from the spill are disposed in accordance with applicable state and federal regulations.

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### **G3.12 TANK TRUCK LOADING AND UNLOADING**

Fuel oil loading and unloading operations from tanker trucks to ASTs or USTs do not occur in contained areas. Most of the refueling areas are gravel or dirt ground surfaces. Levels in tanks are checked before filling begins. Signs are placed at fuel off-loading stations while trucks are off-loading. Truck drivers are to monitor the vehicle continually while off-loading to ensure that no leaks are coming from valves, fuel transfer lines, etc. Tanks are not to be filled beyond the 90% level to avoid overfilling and ensure adequate air space for fuel expansion.

### **G3.13 INSPECTION AND RECORDS**

All Utility ASTs without leak detection are inspected each shift by Utility Operations as required by Conduct of Operations procedures. The inspection reports are maintained in the Utility Operations records file for a minimum of 3 years.

The other fuel oil ASTs (VEW-KRS-100 and -101, VEW-WDS-100 and -101, VES-UTI-113 and -114, and VES-UTI-620) are inspected each shift by Waste Operations personnel as required by Conduct of Operations. The inspection log is maintained by the Waste Operations department and retained for a minimum of 3 years. VES-CFG-6011 is inspected weekly by personnel at the Coal Fired Steam Generation Facility.

The USTs are equipped with computer systems that monitor various functions. Computer program records are available if needed by contacting the tank owners. Because all the oil carrying USTs at INTEC are fiberglass with double walls, and have internal leak detection, no regular pressure testing for tightness is required.

### **G3.14 SECURITY**

DOE has established physical control procedures and equipment to control access to the INTEC. The INTEC is fully fenced and all entrance gates are locked or guarded at all times. The system follows DOE-ID directives and orders on access control. DOE also operates a personnel clearance program to ensure that all employees are evaluated and cleared. The risk of potential sabotage or planned destruction of a critical operating system is therefore minimal.

In addition to the physical security at INTEC, there are Operations administrative procedures in place to reduce the potential for tank leakage to navigable waters of the United States. Included in these measures are locked and tagged valves, blind flanges when in standby or non-operational status, authorized access only to pumping facilities, and localized lighting around tank systems to more readily detect spills or acts of vandalism.

### **G3.15 PERSONNEL, TRAINING, AND SPILL PREVENTION PROCEDURES**

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The plant shift supervisor manages the operation of the INTEC and can be reached at 526-3100.

Supervisors are to ensure that personnel involved in the handling of bulk oil and appurtenances are trained in (a) the operation and maintenance of equipment to prevent spills, and (b) applicable pollution control laws, rules and regulations. Training is to be conducted annually. Spill prevention briefings are to be given periodically to ensure familiarity with this SPCC plan, how to implement it, known spill events, the INEEL Emergency Plan/RCRA Contingency Plan, and any recently developed precautionary measures. These briefings are currently conducted for operations personnel in shift crew briefings and regularly scheduled staff meetings.

Personnel at INTEC who are accountable for oil spill prevention and who report to Lockheed Martin Idaho Technologies Company (LMITCO) line management can be found in page G-11.

### **G3.16 OTHER REGULATIONS**

ASTs are regulated primarily by the Occupational Safety and Health Administration, the National Fire Protection Association, and the Superfund Amendments and Reauthorization Act, while USTs are regulated primarily by the EPA. In accordance with LMITCO MCP-456, Management of Storage Tanks, VES-NCE-140-1 and -2, and VES-SAA-152 and -153 are regulated USTs and need to have overfill protection in accordance with 40 CFR 280.30. Tanks used for storing heating oil for consumptive use on the premises where stored are exempt from the requirements of 40 CFR 280. Underground emergency firewater tanks are deferred from this regulation. Tanker trucks used for refueling are regulated and in compliance with U.S. Department of Transportation regulations. Petroleum product storage and transfer is regulated by the General Permit for Storm Water Discharges Associated with Industrial Activities (57 CFR 41236), which is part of the National Pollutant Discharge Elimination System of the Clean Water Act.

**Appendix L**  
**Procedures Relevant to RA Activities**

## Appendix L

### Procedures Relevant to RA Activities

INEEL, **MCP-3480**, “Environmental Instructions for Facilities, Processes, Materials, and Equipment,” current issue.

INEEL, “Installing Lysimeters and Sampling Soil Pore Water,” **TPR-EM-GW-97**, current issue.

INEEL, “Soil Sampling,” **SOP-11.12**, current revision.

INEEL, **Manual 18**, *Closure Management*, current issue.

INEEL, **MCP-1141**, “Waste Stream Approval Process,” current revision.

INEEL, **MCP-121**, “Radioactive Material Areas,” current revision.

INEEL, **PLN-123**, “Materials Control and Accountability Plan,” current revision.

INEEL, **MCP-3472**, “Identification and Characterization of Environmentally Regulated Wastes,” current revision.

INEEL, **MCP-3475**, “Temporary Storage of CERCLA-Generated Waste at the INEEL,” current revision.

INEEL, **MCP-451**, “Generator Treatment Plans,” current revision.

INEEL, **MCP-3480**, “Environmental Instructions for Facilities, Processes, Materials, and Equipment,” current revision.

INEEL, **MCP-62**, “Waste Generator Services-Low- Level Waste Management,” current revision.

INEEL, **MCP-63**, “Waste Generator Services-Conditional Industrial Waste Management,” current revision.

INEEL, **MCP-69**, “Waste Generator Services–Hazardous Waste Management,” current revision.

INEEL, **MCP-70**, “Waste Generator Services-Mixed Low-Level Waste Management,” current revision.

INEEL, **MCP-83**, “Characterization of Low-Level Radioactive Wastes for Disposal at the INEEL,” current revision.

INEEL, 1995, “Levels of Analytical Method Data Validation,” **TPR-79**, current issue.

INEEL, **MCP-231**, “Logbooks for ER and D&D&D Projects,” current issue.

INEEL, **MCP-230**, “Environmental Restoration Document Control Center Interface,” current issue.

INEEL, **MCP-3448**, “Reporting or Disturbance of Suspected Inactive Waste Sites,” current issue.

INEEL, **MCP-3562**, “Hazard Identification, Analysis and Control of Operational Activities,” current issue.

INEEL, **PRD-25**, “Activity Level Hazard Identification, Analysis, and Control,” current issue.

INEEL, **MCP-227**, “Sampling and Analysis Process for CERCLA and D&D Activities,” current issue.

INEEL, **MCP-244**, “Chain of Custody, Sample Handling and Packaging,” current issue.

INEEL, **MCP-2864**, “Sample Management,” current issue.

INEEL, **Manual #15B**, “Radiation Protection Procedures,” current issue.

INEEL, **MCP-3003**, “Performing Pre-Job Briefings and Post-Job Reviews,” current issue.

INEEL, **MCP-2391**, “Calibration Program,” current issue.

INEEL, **MCP-2725**, “Field Work at the INEEL,” current issue.

INEEL, **MCP-226**, “Well Construction/Well Abandonment,” current issue.

INEEL, **MCP-3653**, “Well Construction, Modifications, Compliance, and Management,” current issue.

INEEL, **MCP-598**, “Corrective Action System,” current issue.

INEEL, **MCP-2811**, “Design and Engineering Change Control,” current issue.

INEEL, **MCP-3002**, “Managing Contaminated Soils,” current issue.

INEEL, **SOP-11.4**, “Field Decontamination of Heavy Equipment, Drill Rigs, and Drilling Equipment,” current issue.

INEEL, **SOP-11.5**, “Field Decontamination of Sampling Equipment,” current issue.

INEEL, **TPR-80**, “Radiological Data Validation,” current issue.

INEEL, **MCP-243**, “Assessment of Analytical Laboratories ” current issue.

INEEL, **MCP-242**, “Obtaining Laboratory Services for Environmental Management Funded Activities,” current issue.

INEEL, **SOP-11.9**, “Measurement of Groundwater Levels,” current issue.

INEEL, **STD-101**, “Integrated Work Control Process,” current issue.

**Appendix M**

**INEEL Storm Water Pollution Prevention Plan for  
Construction Activities – Generic Plan**

**DOE/ID-10425(98)  
Revision 2**

[The document that is the subject of this appendix was provided as an attachment to the original deliverable.]



450.16  
05/18/98  
Rev. 01

**Storm Water Pollution Prevention Plan  
For Construction Activities (SWPPP-CA)  
LONG-FORM PROJECT**

PROJECT TITLE: OU 3-13 Group 5 Snake River Plain Aquifer Drilling Project

Facility or Location: INTEC

NEPA or CX No. \_\_\_\_\_

**Project Description:**

The objective of the project is to drill one new aquifer well and advance up to four existing aquifer wells. The one new and four existing wells will be used to sample and monitor the HI interbed for the concentration of several radioactive contaminants. If COCs are found to be above action levels, 24-hour pumping tests will be performed to establish the sustainable yield of the wells. Wells with COCs above action level and a yield of .5gal/min. for a 24-hour period will be subjected to treatability study(s) in order to determine the potential for successfully remediating the plume(s). Depending upon the results of the treatability studies, remedial actions may be required.

See attached site map for location of the one new well and the four existing wells to be advanced.

In addition, monitoring/sampling of up to 47 existing wells will be conducted on an annual basis. These wells are currently being sampled as a part of the USGS system. Regardless of the contaminant levels in the wells monitoring and sampling activities will be conducted until 2095.

Project Construction Date/Duration: 3 months

Total Area of Site: Approximately 300 acres more or less (mol)    Area of Site to be disturbed: Approximately 1.5 acres (mol)

**Requirements included in project documents:**

- ☐ Post SWPPP-CA notice near main entrance of construction site.
- ☒ Spill prevention measures and prompt cleanup of any liquid or dry material spills.
- ☒ Minimize offsite tracking of sediments from vehicles.
- ☒ Minimize area of disturbance and preserve vegetation.
- ☒ Good Housekeeping procedures:
  - ☒ Proper and orderly storage of chemicals, pesticides, fertilizers, fuel, and other hazardous materials.
  - ☒ Proper and regular disposal of sanitary, construction, and hazardous wastes.
- ☐ Fugitive dust control measures.
- ☒ Perform inspections monthly, after storms, and prior to project close-out.
- ☒ Attach a site map which indicates drainage patterns, discharge locations, potential pollution sources (equipment and material storage areas including soil piles), areas of soil disturbance, erosion and sediment controls, storm water control measures, and stabilization practices.

**Erosion and Sediment Controls:** (Describe controls to divert storm water from exposed soil and retain sediments on site, such as diversion structures, silt fences, and sediment basins. Identify the entities responsible for implementation and maintenance.)

All drilling will be performed outside the INTEC and vegetation will be preserved wherever practical. All sites where drilling is to be performed are adjacent to or current well sites. The well sites are located on flat terrain and a buffer zone of vegetation will be maintained to filter sediment. Temporary piles of topsoil will be covered by a secured tarp. Bladed areas will be covered with wood chips to control dust.

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**Storm Water Pollution Prevention Plan  
For Construction Activities (SWPPP-CA)  
LONG-FORM PROJECT**

Sequence: (Describe the sequence of major activities, control measure implementation, and control measure removal.)

The well sites and laydown areas will be bladed. Vegetation and topsoil that is expected to be disturbed will be temporarily stockpiled and covered with a secure tarps. Bladed areas will be or covered with wood chips to control dust. Containment pads will be used beneath the drill rigs. The well holes will be cored. All wells will be equipped with new pumps. The seedbed will be prepared and seeding performed. After seeding, barriers will be maintained and vehicular traffic will be prohibited until vegetation is well established and final stabilization is successful. Reseeding will be performed as necessary.

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Runoff Coefficient and Storm Water Management: (Calculate runoff coefficients and explain the technical basis for permanent storm water management measures if the coefficient after construction is greater than before.)

There will be no impact to existing CFA or INTEC runoff coefficients. The concrete pads around the four existing wells are currently in existence. The one new well will have a new pad constructed.

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Final Stabilization: (Identify soil stabilization measures and describe scheduling. Identify the entities responsible for implementation and maintenance.)

The area outside INTEC is covered with vegetation and disturbed areas will be revegetated. Weeds will be controlled. Seedbed preparation, fertilizing, and seeding will be performed according to the Guidelines for Revegetation of Disturbed Sites at the INEEL or as recommended by the Environmental Science and Research Foundation.

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Industrial Activities: (Identify industrial sources of pollutants such as asphalt and concrete plants and describe pollution prevention measures.)

None

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Allowable Non-Storm Water Discharge: (Identify type of discharge and describe pollution prevention measures.)

There will be some development water and purge water as a result of the activities. All water will be containerized and managed according to the project Waste Management Plan. There is a potential for groundwater from outside INTEC to be discharged to the ground if it is uncontaminated (meets requirements of the Groundwater Protection Management Plan, DOE/ID-10274).

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Material Inventory: (Identify construction materials and wastes.)

Construction Materials: Drill rigs with associated drill pipe, casing, moisture monitoring equipment, and support vehicles. Wastes will include residual soils and core samples, personal protective equipment, contaminated equipment, and purge water. Wastes will be managed according to the project Waste Management Plan. All wastes will be containerized and removed from the project site, with the exception of uncontaminated drill cuttings and uncontaminated groundwater. Uncontaminated drill cuttings will be spread as a part of revegetation of disturbed areas.

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Endangered Species: (Identify listed species or critical habitat in proximity to the construction activity. Describe any adverse impact and mitigative measures.)

There are no adverse impacts on endangered species as a result of this project. Special mitigative measures are not required. Roger Blew, Plant Ecologist, Environmental Science and Research Foundation, Inc. is providing a review of the project as a part of the Environmental Checklist.

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**Storm Water Pollution Prevention Plan  
For Construction Activities (SWPPP-CA)  
LONG-FORM PROJECT**

I have evaluated and identified controls adequate to meet the requirements of the INEEL Storm Water Pollution Prevention Plan for Construction Activities.

Project Manager

Signature	2/17/00 Date
Carlton J. Roberts Name (Please Print)	6-1605 Phone Number

I am in agreement with the provisions set forth in this plan.

INEEL SWPPP Coordinator: DeAnna Braun Date: \_\_\_\_\_

**CERTIFICATION:**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

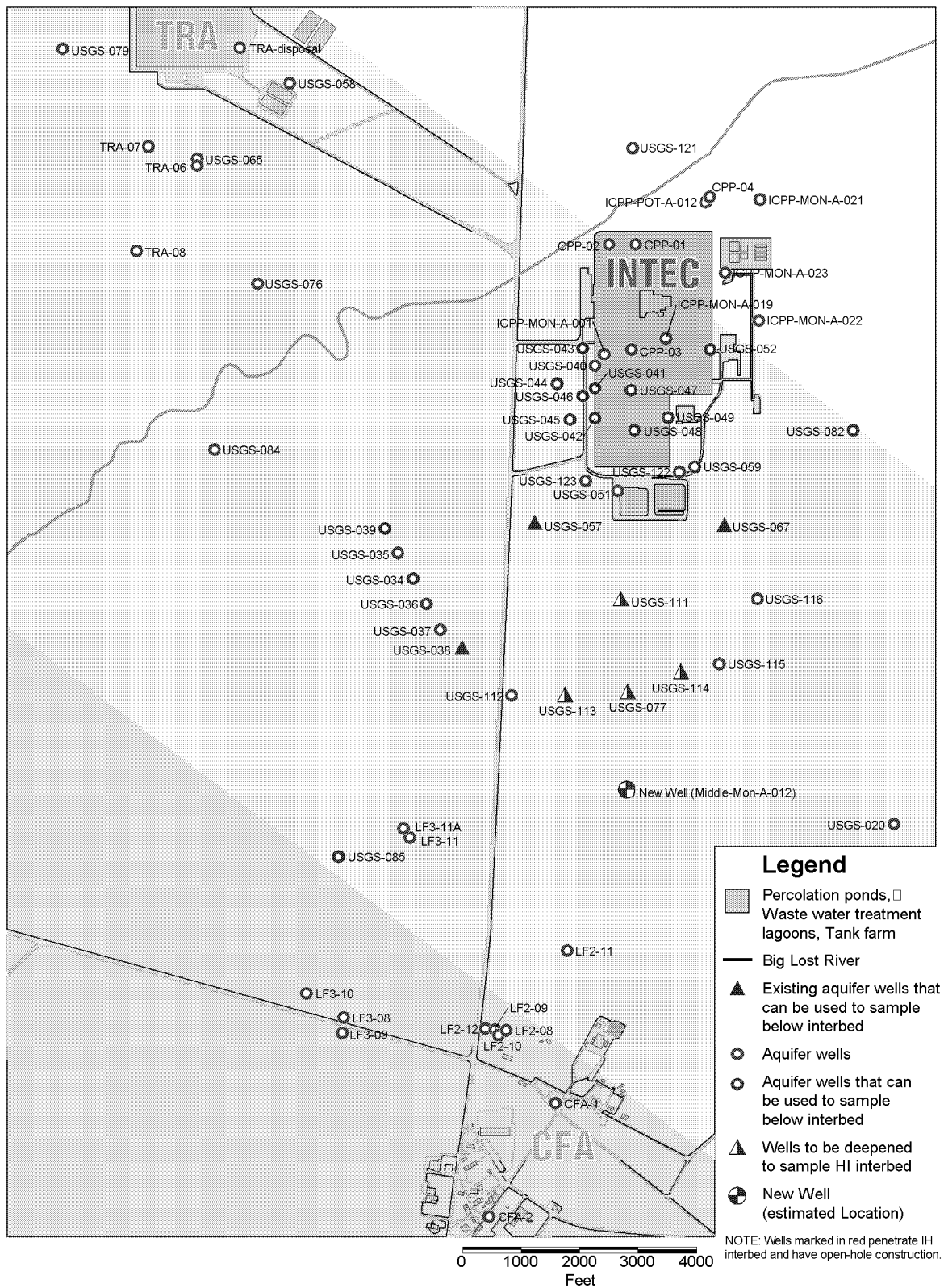
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Title: Environmental Affairs Director  
For: Lockheed Martin Idaho Technologies Company  
Reference: Transfer Signature Authority Letter – GEE-78-98

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Title: Environmental Programs and Settlement Agreement Manager  
For: DOE-Idaho Operations Office  
Reference: Transfer Signature Authority Letter – OPE-EP & SA-98-091

**Worksheet must be appended to the Generic Plan or Facility SWPPP-CA.**



**Figure M-1.** Location of monitoring wells to be deepened to sample HI interbed and location of new well.